DECEMBER, 1933

COTTON

Serving the

TEXTILE INDUSTRIES

DEC 20 1933

FULL-FASHIONED *durene* REINFORCED HOSIERY

Dixie durene is available to knitters of full-fashioned hosiery in any required count.

Every pound is specially inspected for use on full-fashioned machines. When you want to add wear, use Dixie durene—a product of controlled manufacture.

DIXIE MERCERIZING COMPANY

CHATTANOOGA • TENNESSEE

DIXIE DURENE · A Product of Controlled Manufacture

NRA Code 1

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NEW GREEN COUNTER

FRONT KEY LOCATION

THEY ARE ALWAYS A GREAT BUY

Veeder-ROOT PICK COUNTERS

TRUE COST is the Price divided by Years of Service. 350,000 VERTICAL DRIVE VEEDER-ROOT Pick Counters are giving service since installation—some for 15 years. . . The certainty of a trouble-free installation is assured by a *WRITTEN* 5-year Guarantee. *TRUE COST* as measured by long-term performance is the point we would like to discuss with you *NOW* before you buy. *Write or wire.* » »

Save $6.24

Cost $1.56 *per loom per year*

Earn $4.68

COUPON: *—pin to your business letterhead*

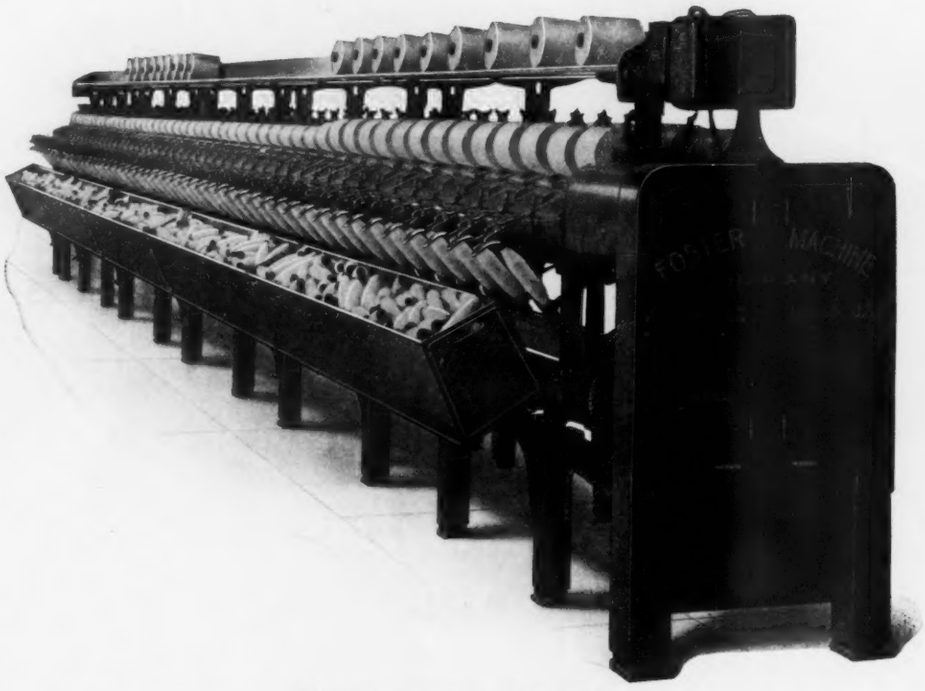
Send us your survey and analysis of mill operating costs, with information on the new GREEN COUNTER for free trial installation. » » »

Veeder-ROOT
INCORPORATED
HARTFORD, CONN., GREENVILLE, S.C.

COTTON is published monthly by W. R. C. Smith Publishing Co., Dalton and Atlanta, Ga. Subscription Rates, United States and Possessions, $1.00 for one year; $2.00 for three years; Canada, $1.50 per year; Foreign countries, $2.00 per year. Entered as second-class matter at the postoffice, Dalton, Ga., under the Act of March 3, 1879.

The Wise Men
of Old
Followed the Star
That Signalled a New
Era in the Relations of Men
In the
Spirit of Christmas
and with Inquisitive
but Confident Hope
Let Us Face the New Year
With Faith in Ourselves
Our Country and Our Industry
We Wish the Textile Industry
a Merry Christmas
and
a Prosperous New Year
Draper Corporation

Foster Model 102 Tube Winder



The Foster Model 102

winds tubes of cotton yarn for twister supply in mills making ply yarns. Dyeing tubes for all dyeing package systems. Tubes for any work that does not require precise wind lay of yarn.

The combination of automatic threading parts and high winding speed in the Model 102 has lowered yarn manufacturing costs and brought economy in power and floor space.

Foster Machine Company

WESTFIELD, MASSACHUSETTS.

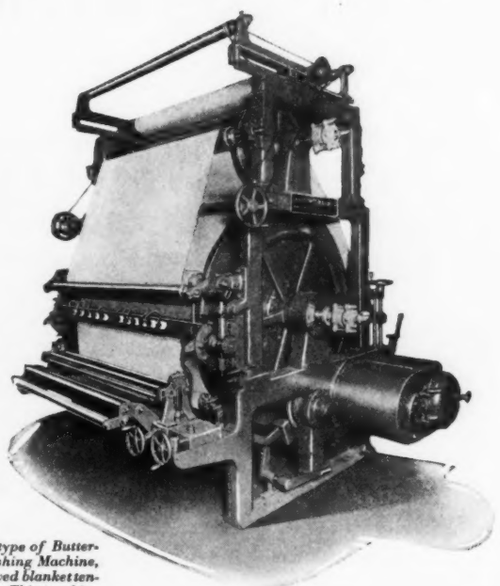
FRED P. BROOKS, REPRESENTATIVE, P. O. BOX 941, ATLANTA, GA.

★WHY DID YOU TURN IN YOUR LAST CAR?★

It was running well—probably as good as it ever ran. But a new car offered you refinements over the old car—it was more modern—it was faster—and you convinced yourself it was more economical to replace it.

NOW, what about your finishing machines? They are probably working pretty well, and you are making them do—just can't bring yourself to scrap them.

But just as in the case of your old car—you'll find it more economical to replace them with new, faster machines which have scores of refinements over the old machine. New machines give you greater yardage, better finishes, and save you money in labor and horse power. This we admit is a general statement, but we'll prove it, any time.



The latest type of Butterworth Finishing Machine, with improved blanket tension device. This machine plays an important part in good Sanforizing.

Ask our engineers. They'll tell you quickly just how much obsolete machines are costing you. And when you add up the column of figures showing unnecessary expense you'll install new finishing machines, because you will then know how old machines are wasting your money—just a little here and there, but it has been estimated that $23,000,000 can be saved annually by the installation of modern finishing machines.

What part of this can you save?

H. W. BUTTERWORTH & SONS CO.
Established 1820
PHILADELPHIA, PA.
PLANTS *at* PHILADELPHIA *and* BETHAYRES, PA.

New England Office:
TURKS HEAD BUILDING
Providence, R. I.

Southern Office:
JOHNSTON BUILDING
Charlotte, N. C.

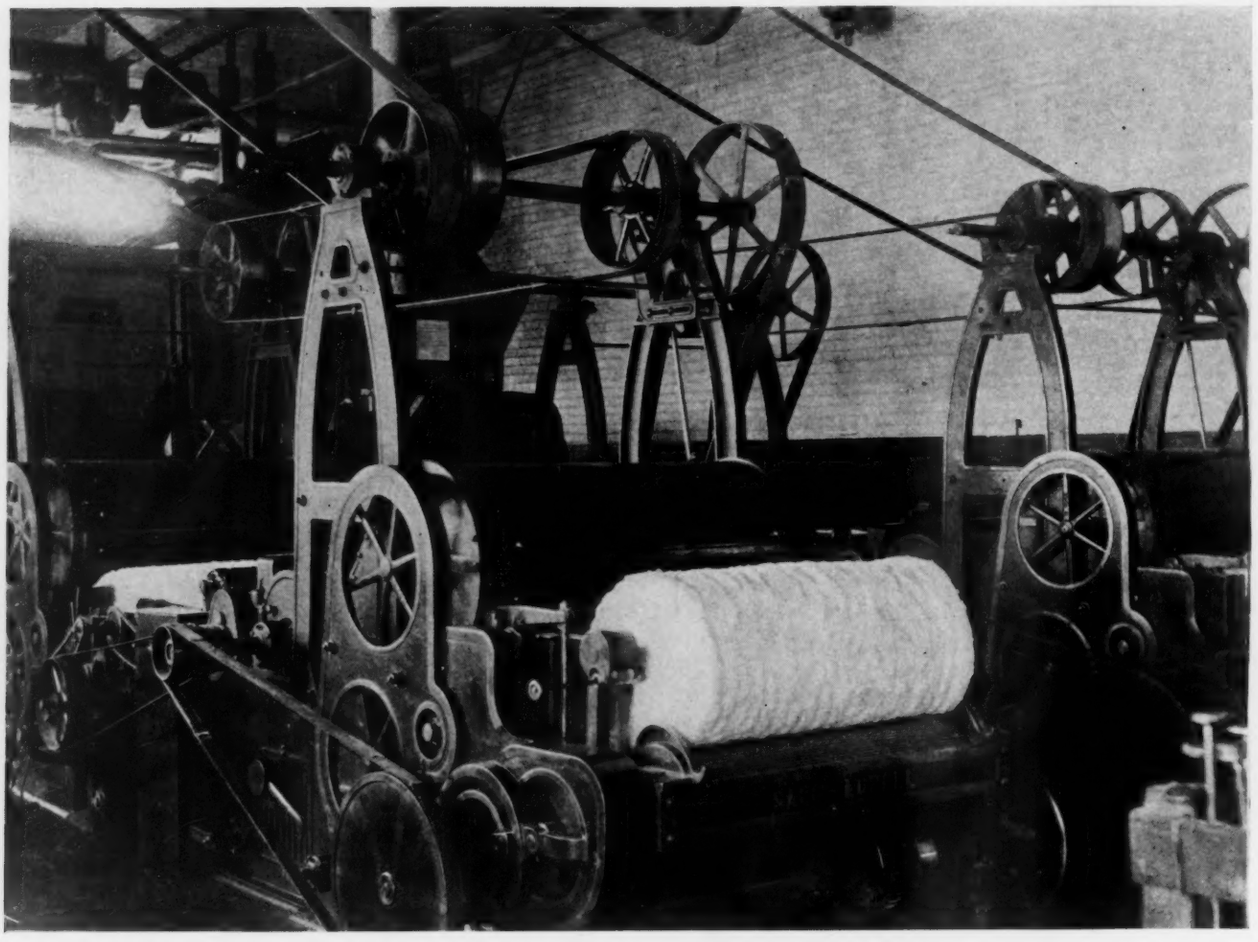
In Canada:
W. J. WESTAWAY CO.
Hamilton, Ontario

★

We are members of the National Association Textile Machinery Manufacturers — Code No. 1333-1-08

BUTTERWORTH *Finishing* MACHINERY

A COMPLETE LINE OF FINISHING AND RAYON MACHINERY FOR THE TEXTILE INDUSTRY



An Aldrich Synchronized Single Process Picking Installation

Inexpensive, Simple, Fool-Proof; there is nothing to adjust; nothing to get out of order

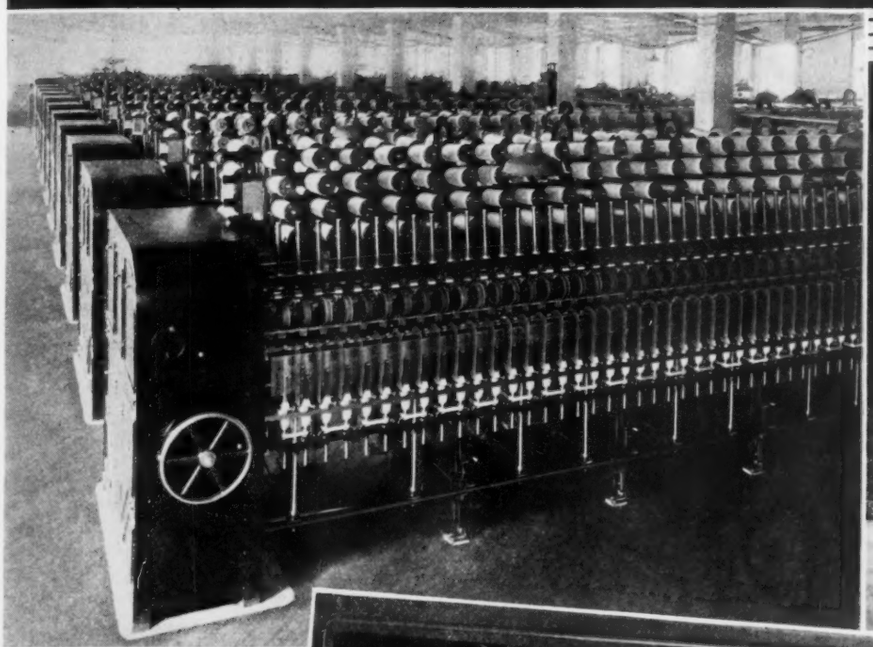
It is the only system of single process picking which does not overload the evener on the finisher section, and this is the chief reason for its great superiority over all other systems.

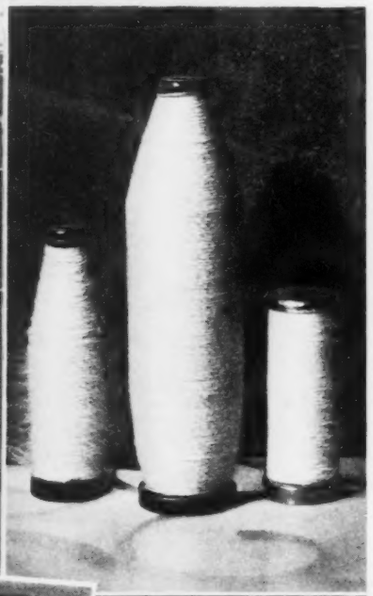
Aldrich Synchronized Single Process Picking has been overwhelmingly chosen where it has been tested out side by side with other methods. In the two and one half years it has been on the market, more pickers have been changed to the Aldrich System than to any other system of single process picking.

Made and Installed by

ALDRICH MACHINE WORKS

Greenwood, South Carolina





Reinforced Builder Motion. Adequate for the work. Adjustable for long traverses.

Large Package . . . Bradford Worsted Spinning Frames

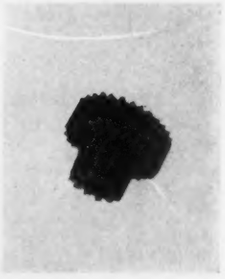
* * * LARGER PACKAGES cut doffing costs to a minimum, reducing production loss from frequent stoppages. Knots are less frequent. Winding costs lessened 75%. Rewound filling bobbins mean higher loom efficiency.

* * * HIGH SPEEDS obtained comparable to cap spinning speeds. Variable speed spindle drive enables you to spin successfully at higher speeds with less end breakage. Stationary ring rails with yarn tension and balloon under positive control, without sacrifice of quality. Traverses to 11″. Packages 3″ diameter, weighing up to 12 oz.

* * * COMPARE PRESENT COSTS on cap spinning with modern ring spinning using special autolubricated vertical rings. Quick change from regular to reverse twist. Moving parts completely and securely enclosed. Box head construction with drives inbuilt.

WHITIN MACHINE WORKS **WHITIN** WHITINSVILLE, MASS.

PROFIT OR LOSS

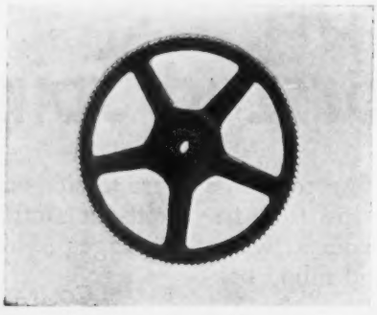


A great deal depends on whether or not the individual parts of your machine are working efficiently. Worn parts, parts that do not fit perfectly, parts that break too easily—all cause losses that eat into profits. A further time-loss is caused by failure to have needed parts in stock ready for instant replacement.

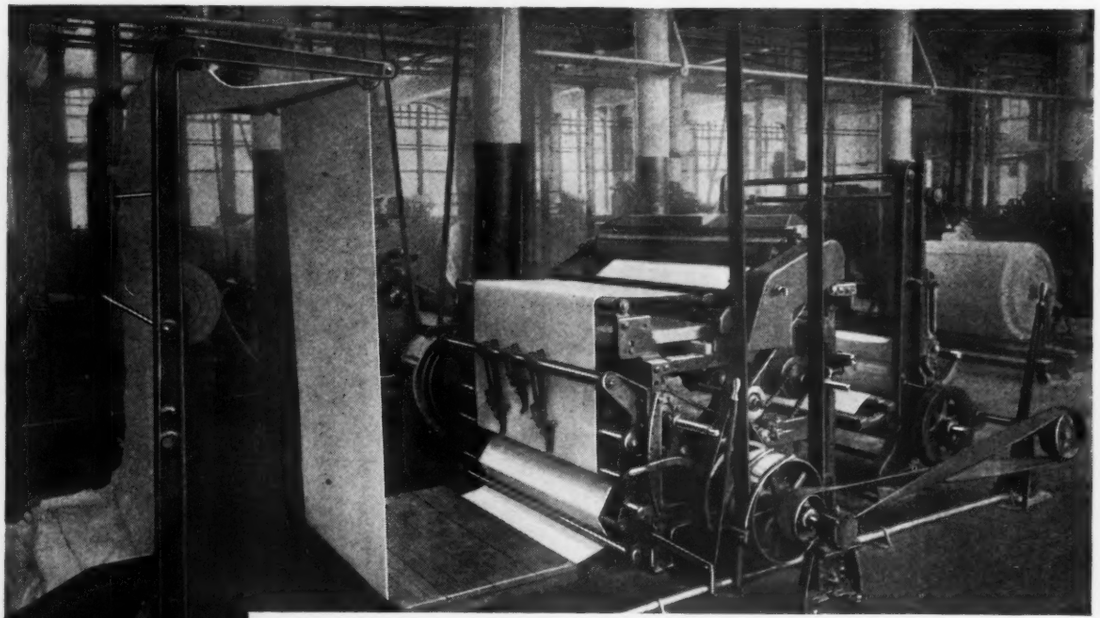
Investigate your stocks of repair parts—replenish those that are most used, NOW. In HENDERSON Textile Repair Parts you will find that precision, quality and efficiency you like. We have precision patterns or parts for practically all looms, pickers and other textile machinery.

Low overhead and close location to Southern Mills enable us to make them worthwhile savings and render quicker service. Prices gladly quoted on any textile parts.

HENDERSON FOUNDRY & MACHINE WORKS
HAMPTON, GEORGIA.



HENDERSON
TEXTILE REPAIR PARTS



AUTOMATIC COTTON SHEAR

FROM AN ACTUAL PHOTOGRAPH OF ONE OF A BATTERY OF THREE AUTOMATIC CENTURIAL THREE BLADE COTTON SHEARS FITTED WITH THE SEAMLETHRU THAT SELF-PASSES ALL THE SEWINGS. NO TENDER NEEDED.

THE SEAM-STITCHER WHO SEWS THE PIECES TOGETHER SUPPLIES THE SHEAR WITH CLOTH.

SAVES EACH YEAR ONE SHEAR TENDER FOR EACH MACHINE.

IT PERFECTLY CLEARS THE CLOTH FROM HANGING THREADS AND ALL DANDRUFF, LEAVING IT CLEAN AND BRIGHT.

SAVES MANY GIRLS IN THE BURLING.
MAKES YOUR FABRICS MORE SALEABLE.

SAVES AND SELLS

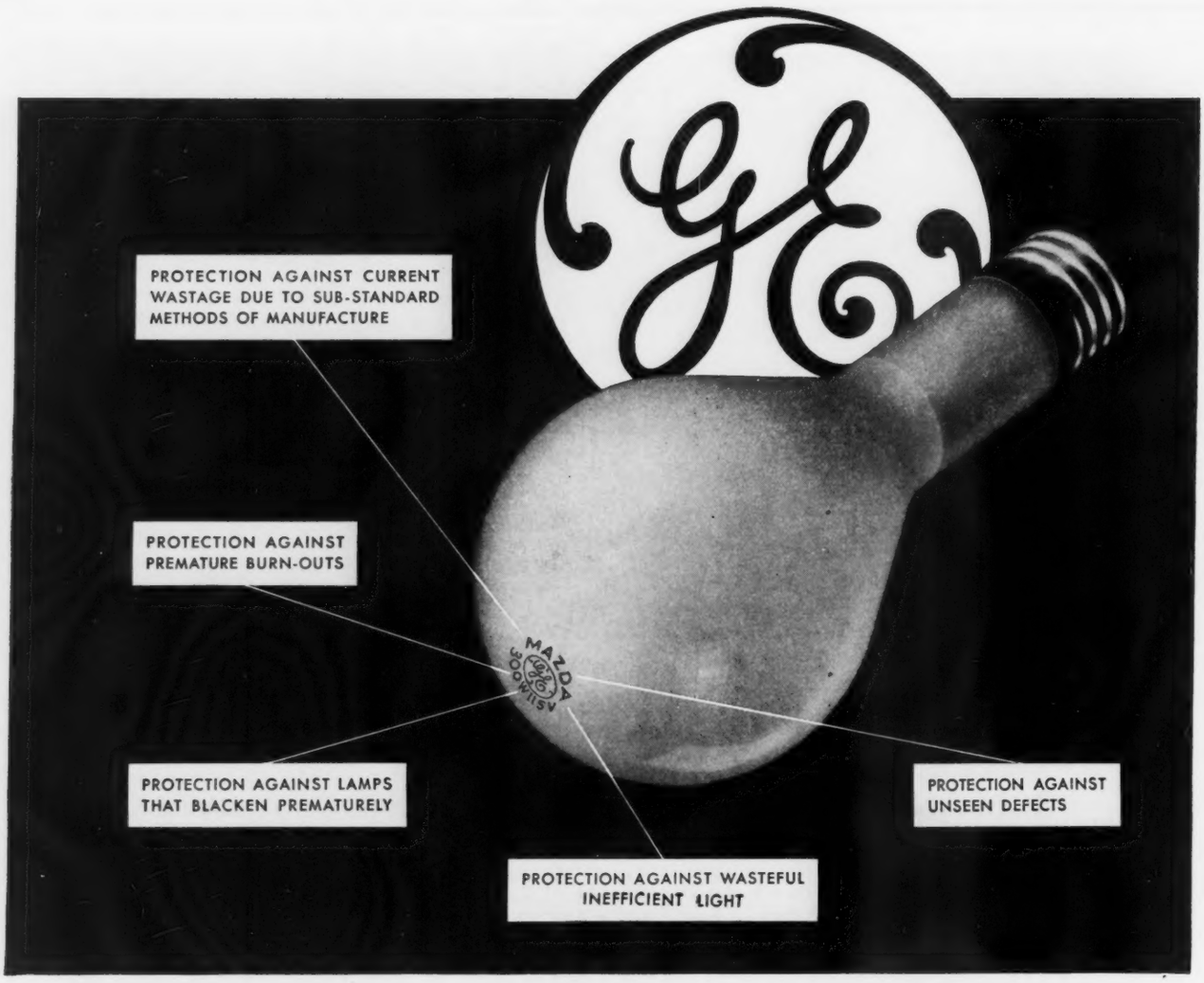
SENT ON APPROVAL—YOU THE JUDGE

NEVER MISSES A SEAM
NEVER SMASHES A BLADE
NEVER DAMAGES THE CLOTH

A GENUINE AUTOMATIC IN NAME AND PERFORMANCE

Parks & Woolson Machine Co.
Springfield, Vermont

P. B. RAIFORD, Jr., Sou. Rep.
Concord, North Carolina


PROTECTION AGAINST CURRENT WASTAGE DUE TO SUB-STANDARD METHODS OF MANUFACTURE
PROTECTION AGAINST PREMATURE BURN-OUTS
PROTECTION AGAINST LAMPS THAT BLACKEN PREMATURELY
PROTECTION AGAINST WASTEFUL INEFFICIENT LIGHT
PROTECTION AGAINST UNSEEN DEFECTS
MAZDA

Check your Lighting as Carefully as you check your Costs

Your accounting department vigilantly watches your costs to prevent loss, but is your lighting as carefully watched?

Here is a source of loss often overlooked, because eyes cannot see the current wasted by lamps of anonymous make, nor the lowered morale caused by the inefficient light they give.

You, and thousands like you in the United States, are anxious to make every dollar you spend for current bring you a full return in light. You are anxious to avoid the expense of replacing lamps that burn out or blacken prematurely. And you can do this only by using lamps of a known, reliable make. That is the only way you can be sure of true lighting efficiency and true lighting economy. The General Electric trade-mark on a lamp is a guarantee of painstaking manufacture. It means that the lamp embodies every known and worthwhile improvement. It means good light at low cost. And it means protection for every user against bulbs that blacken quickly in use . . . against premature burn-outs . . . against imperfections.

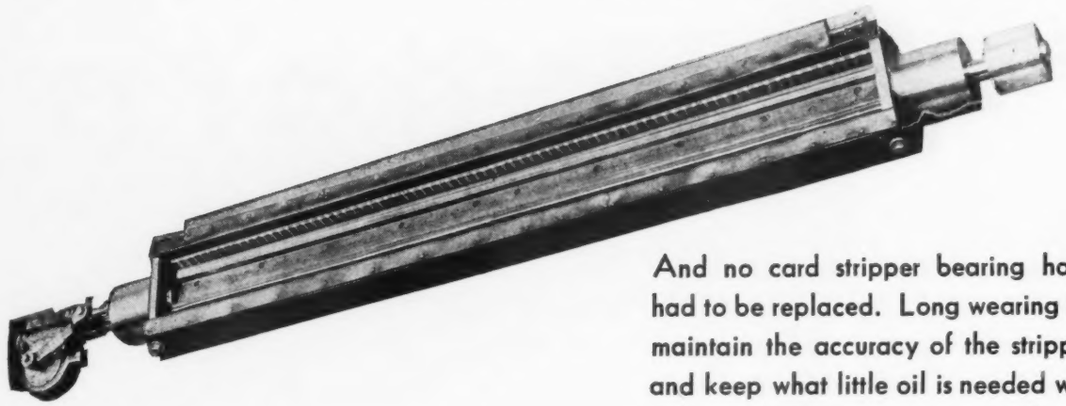
Follow the example of outstanding industrial and commercial concerns, great railroad systems, public institutions: specify General Electric MAZDA lamps.

The monogram G-E in a circle on the end of the bulb is your assurance that you will get all the light you pay for. General Electric Company, Nela Park, Cleveland, Ohio.

GENERAL ELECTRIC

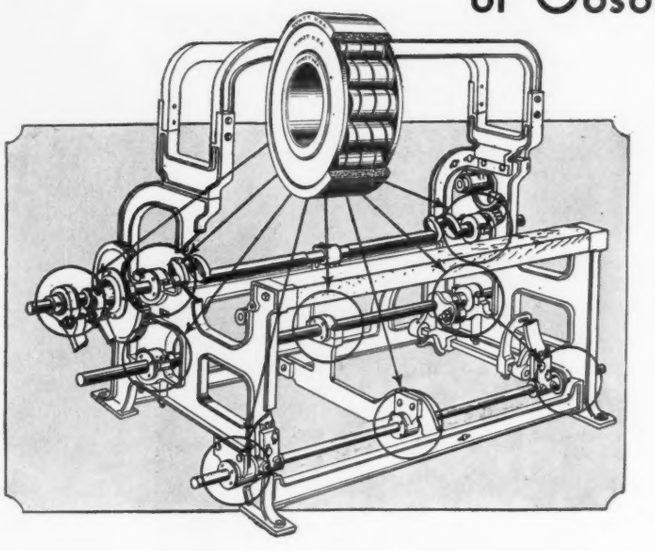
MAZDA LAMPS

Today Mill Men Get HYATT ROLLER BEARINGS in Their Card Strippers



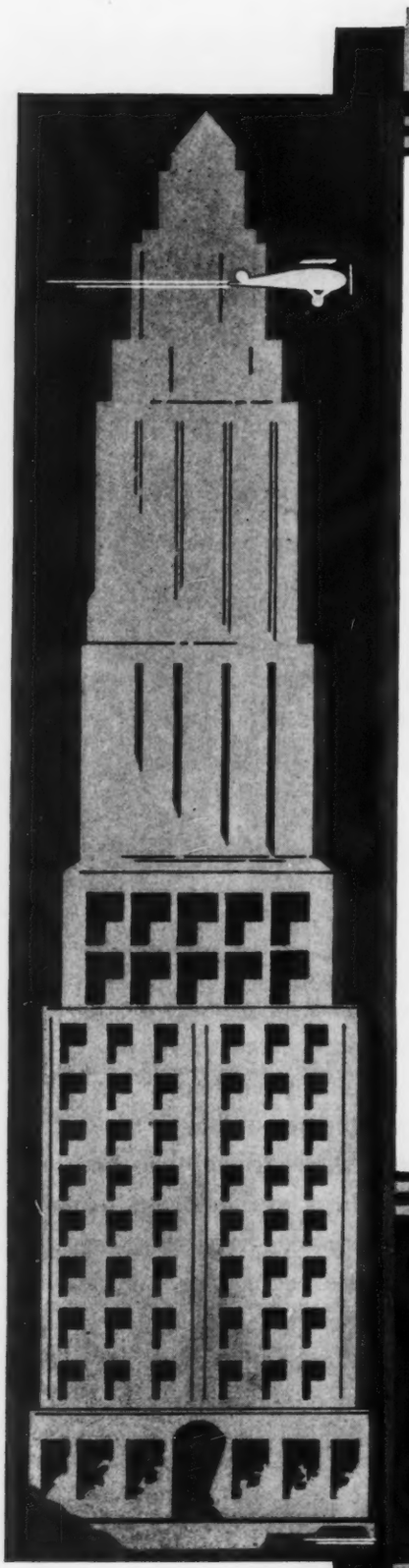
And no card stripper bearing has ever had to be replaced. Long wearing Hyatts maintain the accuracy of the stripper roll and keep what little oil is needed where it belongs—in the bearings—not in the cotton.

Then Why Be Satisfied With Bearings of Obsolete Design in Your Looms



Your new looms have modern accurately cut gears made in the same way as the modern gears in your automobile. Give these gears the same chance they get in your automobile. Mount them on Hyatt Roller Bearings and observe how accurately they mesh—how easily they run. The oil in these bearings can not leak out and spot your cloth. Let us give you the facts about roller bearing equipped looms. Hyatt Roller Bearing Company, P. O. Box 476, Newark, N. J.

H Y A T T
ROLLER BEARINGS
PRODUCT OF GENERAL MOTORS



keep your brand designs
modern

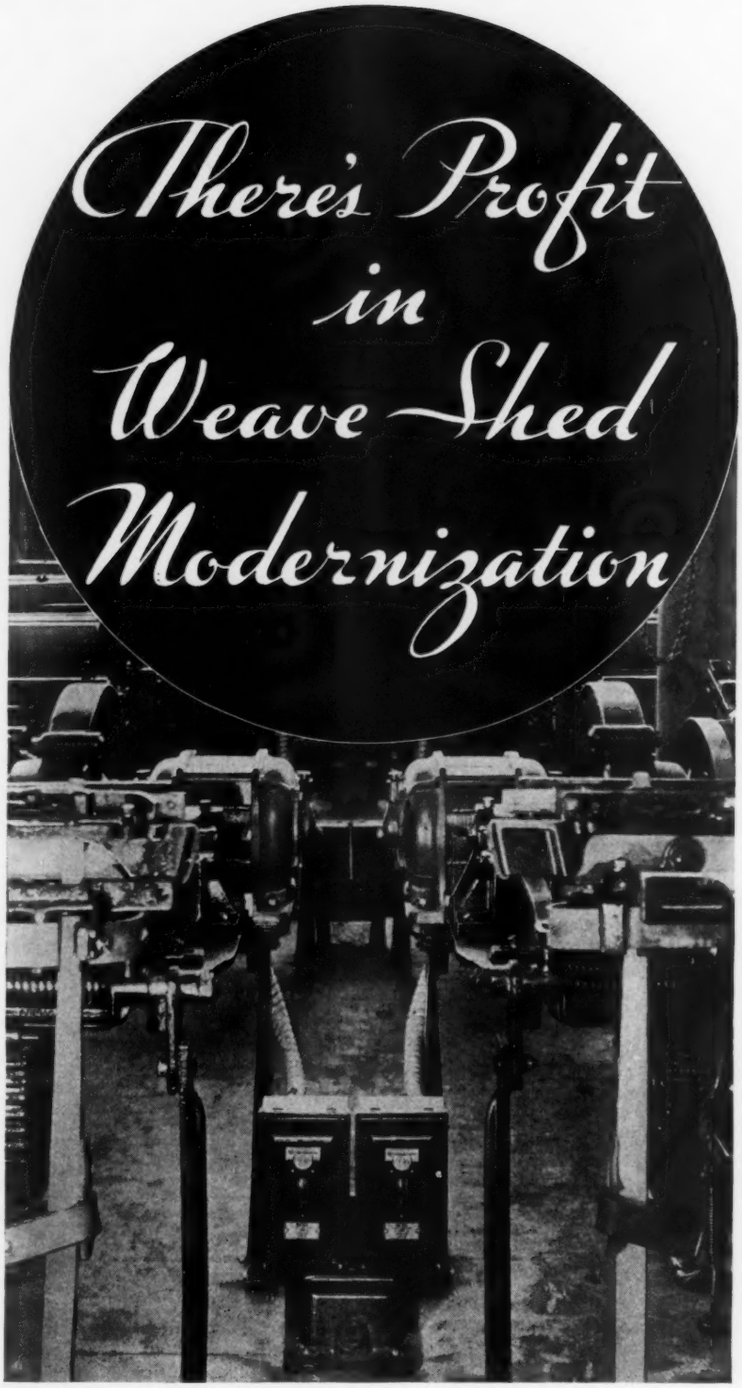
Textile merchandising moves ever forward in company with an age of change. New styles, new patterns, new products rise above the skyline, seeking their share of consumer recognition.

That recognition is more easily obtained when goods are branded with designs which properly reflect both the character of the product and the modern spirit.

In our work of originating designs for textile brands, we strive to keep these salient features uppermost in mind. Our products include labels, tickets, bands, hang tags, bolt ends and hosiery riders on which we invite inquiries.

JACOBS
GRAPHIC ARTS
COMPANY
CLINTON, SO. CAR.

There's Profit in Weave Shed Modernization



Weave shed of a large Southern cotton mill using the new Westinghouse Loom Drives. Note the neatness and compactness of the drive.

THE weave shed is a logical starting point for a modernization program. Any saving effected in this department will represent a considerable reduction in the total cost of finished cloth.

The modern Westinghouse Loom Drive is made to order for the latest types of looms.* With its new and improved mechanical and electrical characteristics, the Westinghouse Loom Drive matches them perfectly—in economy—in sturdiness—and in efficiency.

Motor

The motor has great mechanical strength to withstand vibration. It has liberal capacity for breaking-in new looms and is enclosed to exclude lint. Windings are triple-guarded from moisture. High efficiency and power factor assure lowest power costs.

Starting Switch

The starting switch provides the highest degree of overload protection for the motor, yet eliminates the expensive production delays caused by a blown fuse or link.

There are other important cost-saving features of the Westinghouse Loom Drive that will appeal to textile mill executives who are seeking reduced weave shed costs. Call or write our nearest sales office, or simply mail the coupon.

**Such as the Crompton and Knowles "Cotton King," "Super Silk" and automatic HIGH-SPEED worsted looms—and the Draper Models "X," "C," "R" and "HC."*

Westinghouse

Quality workmanship guarantees every Westinghouse product

SEND FOR INFORMATION

Westinghouse Electric & Manufacturing Company
Room 2-N—East Pittsburgh, Pa.

Gentlemen: Please send me a copy of L.1289-A, Loom Motors and Control.

Name .....

Position .....

Company .....T 79814

Address .....C 12-33

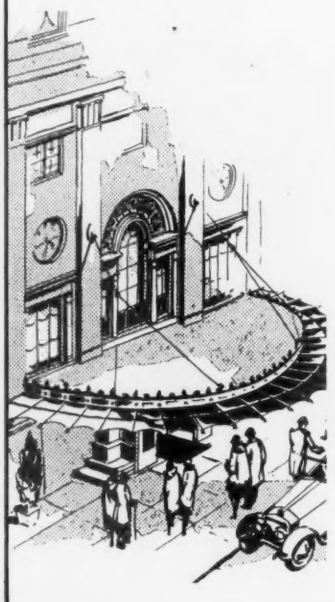
The VANDERBILT Hotel

New York City

An hotel of Distinction
with very Low Rates

Single Room & private bath $3.00

Double Room with two beds & private bath $6.00



WALTON H. MARSHALL, Manager
Park Avenue at 34th St., New York

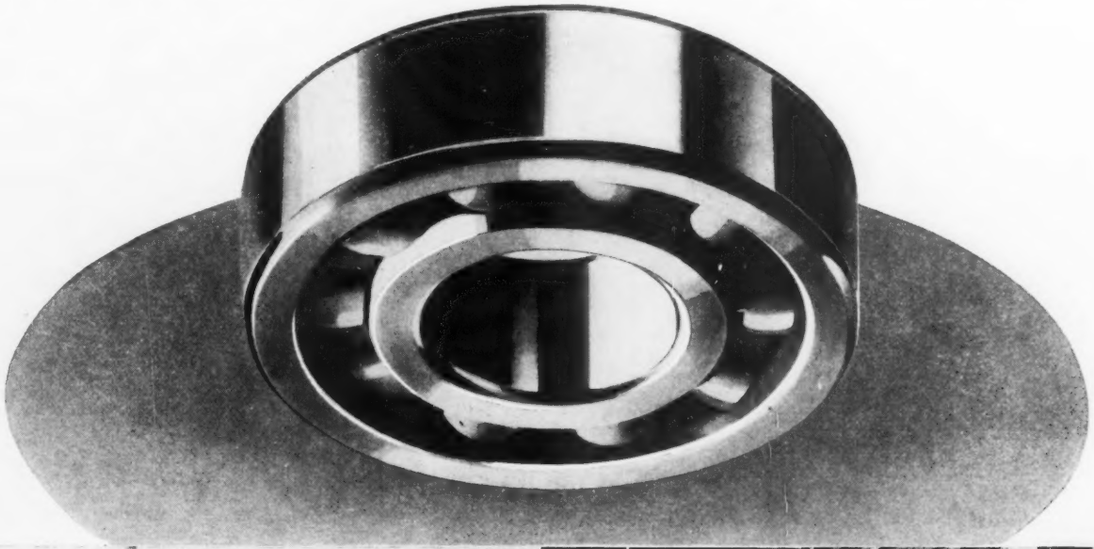
The Della Robbia Room

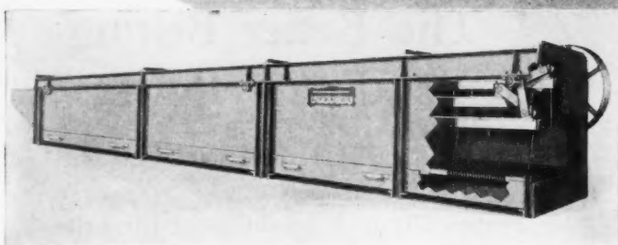
$ With Higher Costs $

Modernization is now Vital

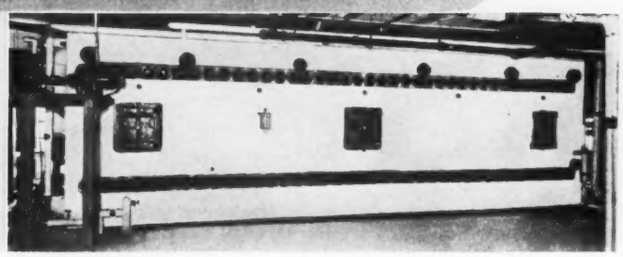
THIS increased labor cost! How will it be paid? How can we make a profit despite rising material costs? Prices must be such that the demand for our products will grow, or the jobs already created will be jeopardized. But under the N.R.A. we must sell at a profit. How can this be done?

We must turn to those to whom the worker and manufacturer owe so much—the machinery manufacturers of America. They have never ceased developments. They have produced equipment which provides profit despite curtailed volume. Plants with such equipment are ready—with very favorable costs. They have found the answer with such machines as are shown below.





Lummus Gyrator uses ⅕ usual H. P. A new principle of operation! The stock is propelled over grid bars by steel fingers having a gyratory motion. Waste is sifted out as the cotton progresses. Fafnir Ball Bearing Pillow Blocks save power and protect the machine's life.



Butterworth Ager given longer life. High temperatures have always been a problem tending to shorten life. Through the use of Fafnir Pillow Blocks, Butterworth solved the problem. The result is a more efficient machine, more economical to operate and possessing longer life.

KEEP *abreast of new developments. Read Fafnir's house organ, "The Dragon". We will gladly put you on the mailing list.*

Mills save with Fafnir Hanger Boxes. Both installations were made in the weave sheds. One uses 324 boxes on the loom drive shafts and saves 10% in power. The second mill found an 11% saving in power. Both save in maintenance, reducing lubrication from monthly oilings to annual greasings.

Ask us to help—we will gladly cooperate as we have with hundreds of manufacturers. Our job is to banish waste—and that is one of the surest ways of making money today. THE FAFNIR BEARING COMPANY, *New Britain, Conn.* Representatives also at Atlanta...Charlotte...Dallas...Houston...Birmingham...Boston.

FAFNIR BALL BEARINGS

COCHECO

The Better Belting for Better Power Transmission

The quality and durability of the belting not only have a great deal to do with the economy of the driving medium, but with the *efficiency of the drive.* This scene of many belts is laid in one of the production departments of a well-known automotive plant, an indication of the type of plant in which Quality Leather Belts—COCHECO Belts—are giving maximum efficiency in driving service.

Use COCHECO Belting where smooth, uninterrupted power transmission is necessary to profitable production. The COCHECO Book on Belts will tell you why it insures the belting service you demand.

I. B. Williams & Sons

Dover, New Hampshire
U. S. A.

DETROIT NEW YORK
CHICAGO GREENVILLE, S. C. PHILADELPHIA

SHERWIN-WILLIAMS

SAVE - LITE

The Ideal Interior Mill Finish

Eg-Shell, Gloss and Flat

FURNISHED ALSO IN FUME-RESISTING TYPES

COVER THE EARTH
AFRICA EUROPE
Trade Mark Registered

Walls and ceilings finished with SHERWIN-WILLIAMS SAVE-LITE softly diffuse every ray of light from windows and artificial lights. This increases working light 30% to 50%. Light up for profits and insure your investment with S-W SAVE--LITE.

SAVE-LITE has won the approval of mill owners because of its superb quality of finish and *whiteness.* The working qualities of SAVE-LITE are all that can be desired. It brushes with great ease and is adaptable for spray application. The proper balance of formula and thorough fine grinding produces great coverage and hiding power.

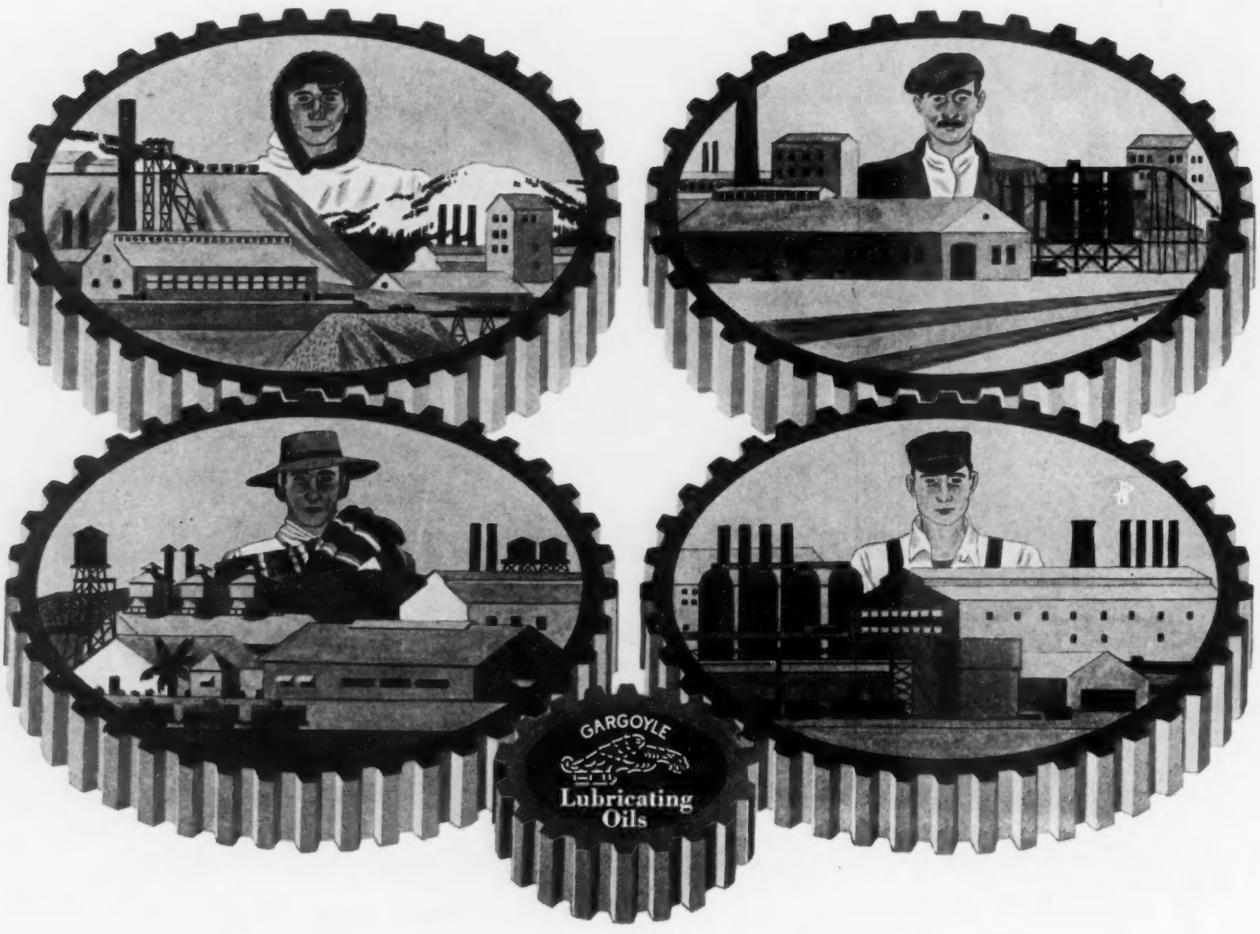
SHERWIN-WILLIAMS

STANDARD PRODUCTS FOR TEXTILE MILLS AND VILLAGES

TEXTILE OFFICES: Philadelphia, Charlotte, Spartanburg, Atlanta, Nashville, Newark, N. J., Boston, Mass.

Warehouse connections at all offices carry stock for prompt service to textile trade

WORLD-WIDE . . . AND IN YOUR PLANT



A Vital Cog

in cost control

Today, labor costs are higher! Raw material costs are higher! Selling costs are higher! Now is the time to profit by the experience of world-wide plants in every industry and let Gargoyle Lubricants help reduce your major *plant* costs.

For, in your plant, too — Gargoyle Lubricants can reduce power costs 3% to 10%. They can lower your maintenance and repair expense. They may help speed up your production schedules. They'll certainly insure you against machinery shutdowns.

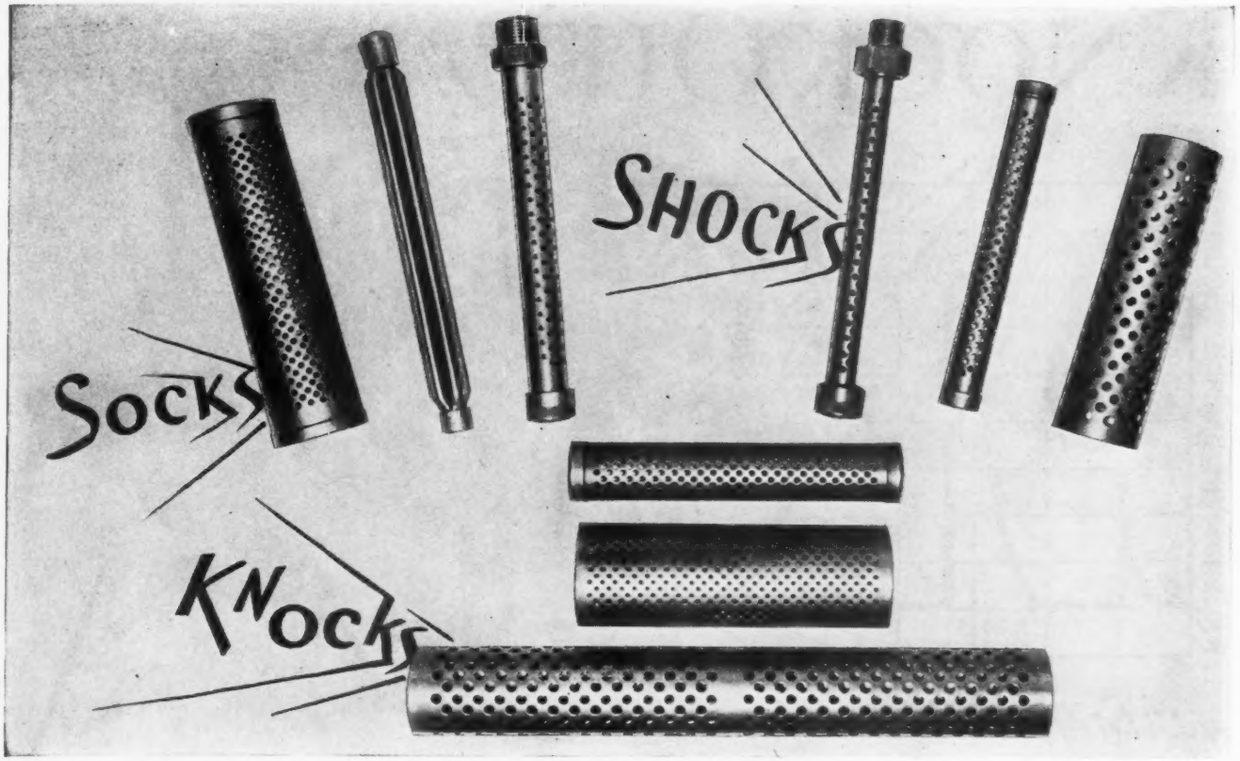
The cost of lubrication is a trifling one — probably less than 1% of your total costs of conversion. Yet this seemingly insignificant item controls major costs in your plant. Plant records, written in every language, prove that Gargoyle Lubricants *can easily save you many times your total annual cost of oil.*

Any Socony-Vacuum representative will be glad to show you lower-cost records made by leading plants in your own industry . . . to suggest means by which you can lower today's costs in *your* plant.

Socony-Vacuum Corporation, 26 Broadway, New York City. Branches and distributors throughout the world.

SOCONY-VACUUM
CORPORATION

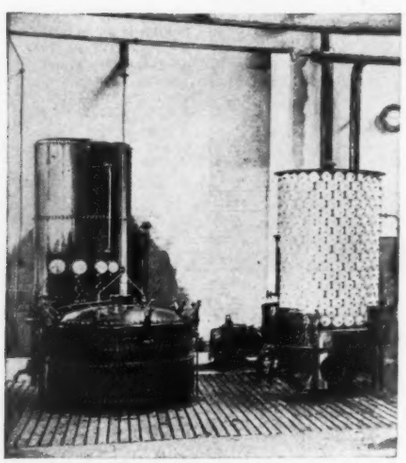
NRA MEMBER U.S. WE DO OUR PART



● *Various types of Monel Metal spindles used in package dyeing. Manufactured by Larson Tool and Stamping Company, Attleboro, Mass.*

What cruel punishment these MONEL METAL SPINDLES CAN TAKE!

The Larson Tool and Stamping Co. now makes Perforated Monel Metal Spindles for every type of package dyeing



● You've seen, scores of times, what happens to the perforated spindles commonly used in package dyeing. Set up in careless haste—removed with hurried yanks—tossed roughly into boxes or bins—they've got to be strong to stand such treatment.

That's one reason for making them of Monel Metal, for this enduring alloy has steel-like strength. But there are other equally impressive reasons, too. Monel Metal is absolutely rust-proof, and resists the corrosion of chemicals and dyestuffs... characteristics that not only preserve its own life, but also the quality of your product. There's little or no chemical reaction with Monel Metal that will harmfully affect the colors.

In short, package dyeing spindles are made of Monel Metal for the very same reasons that other dyehouse equipment is made of this tough, corrosion-resisting Nickel alloy. For 25 years Monel Metal has been giving unrivaled service under the most destructive dyehouse conditions... dyeing silks, cotton, rayons and woolens, with direct, acid, vat, basic or sulphur colors.

The Larson Tool and Stamping Company of Attleboro, Mass., are specialists in the manufacture of all-welded, perforated spindles of Monel Metal for every type of package dyeing...yarns, roving, slubbing... as well as for tinting. The thousands of Monel Metal spindles now in use, and the frequent repeat orders, indicate that they are becoming standard equipment throughout the industry.

Let us know the dimensions and type of spindles you are now using and we will gladly arrange to have complete information and prices sent you. We should also like to send you a copy of our pamphlet, "Dyeing Yarns in Package Form." Write for it.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 WALL STREET, NEW YORK, N. Y.

NRA MEMBER U.S. WE DO OUR PART

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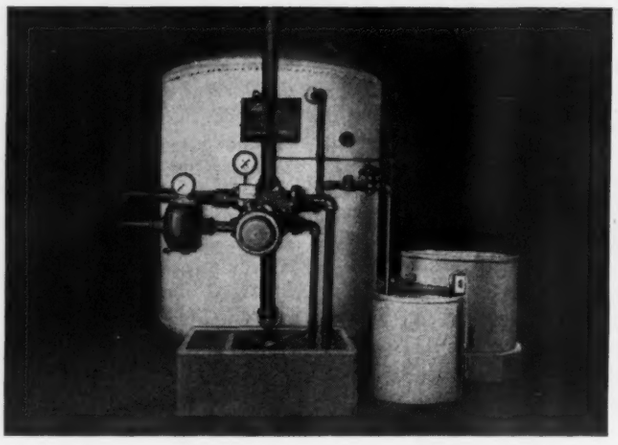

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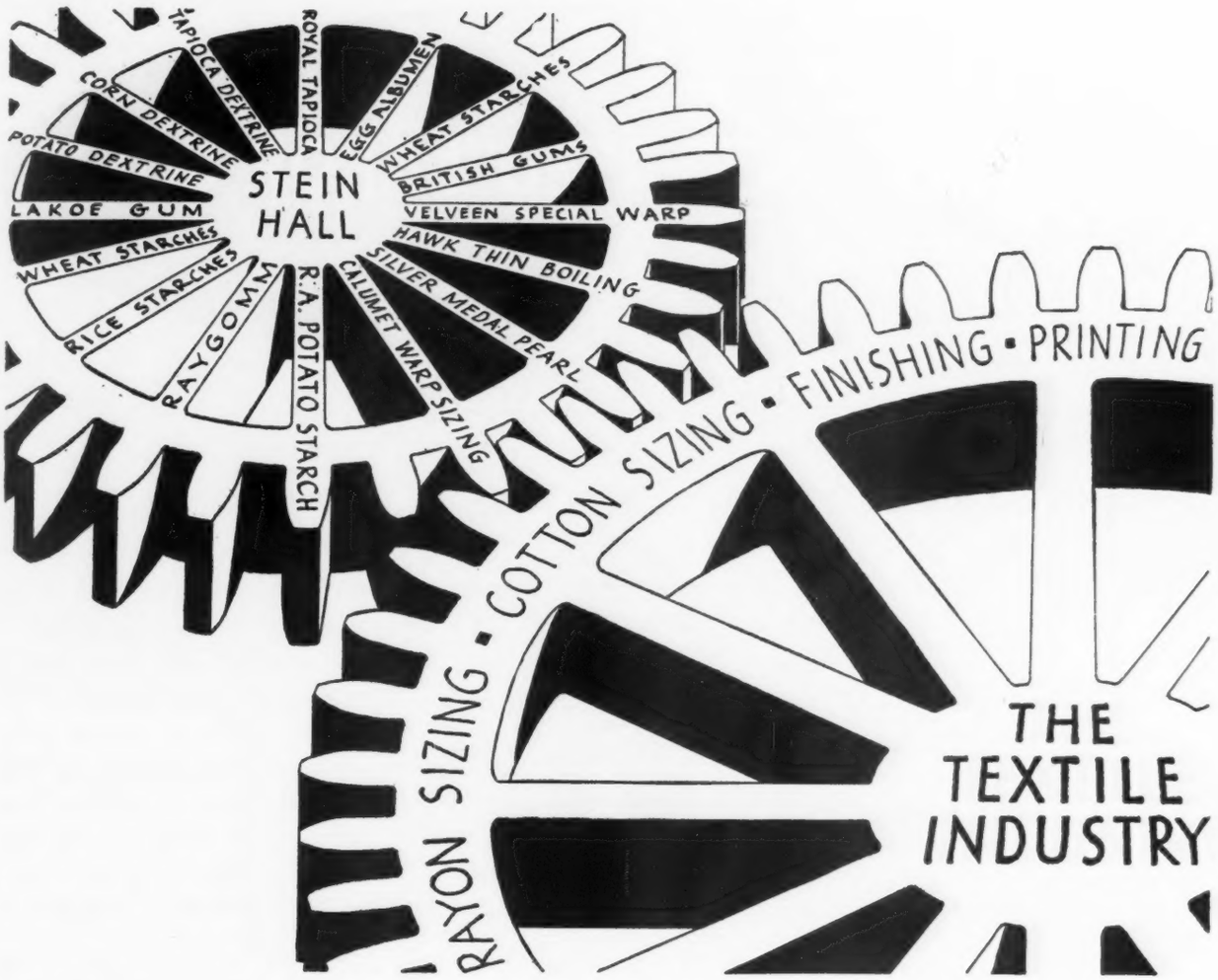

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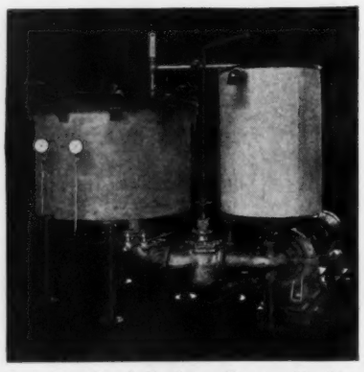

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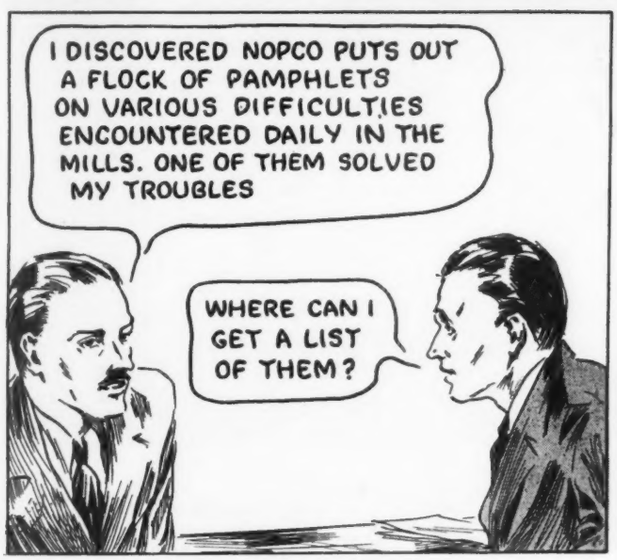
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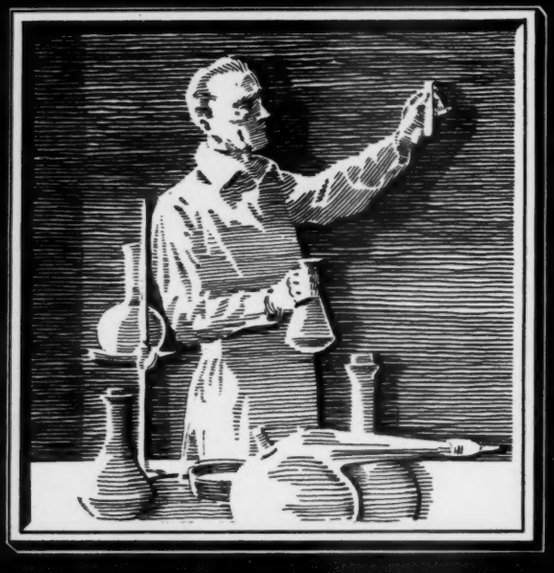

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Vol. 97 **COTTON** No. 12

December, 1933

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No. 12

COTTON

December,
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A Mill Executive Discusses Textiles under the Recovery Program

A PROMINENT southern textile executive here discusses frankly some of the problems—including the labor provisions of the NRA and the processing tax on cotton, without compensatory taxes on other fibers—of the textile mill. He emphasizes the inter-relationship of industry and agriculture and how it is being affected by the recovery measures . . . . . .

By John A. Law

President, Saxon Mills and Chesnee Mills

THE SOUTH, as a section, believes in the wisdom of the principle of local self-government, and could easily adapt itself to the basic principles of the National Recovery Act, namely, self-control of business and industry, in order to bring about fair competition, stabilization of employment, and the observance of the Golden Rule between employer and employee. It seems to me also that the southern textile industry—certainly the greatest in importance so far as the number of people dependent upon it is concerned—could respond consistently to these basic principles of the Act.

Perhaps the most striking progress—I can almost say the only progress—that the textile industry has made in its rough experiment of recent years has been along lines of earnest and carefully organized efforts toward self-control, to abolish unfair competition, and to stabilize employment. These principles had been accepted and subscribed to by so large a majority of those engaged in textile manufacturing that it was no long step for them to take in joining hands with those attempting to put through the proposed New Deal.

The willingness on the part of the leaders of the textile industry to go to the bat first in the preparation and submission of a code, subsequently approved as Code No. 1, was not so much due to the urge that they should act first because they represented the industry upon which the largest number of people is dependent, but because of their preparedness for such a movement, due to the sincere and yet unsuccessful efforts that the industry has made toward self-government, control of production, stabilization of employment, and the complete eradication of such recognized evils as all-night operation and the employment of minors.

In spite of this receptive spirit, it cannot be denied that there was grave disappointment when Paragraph Seven, the labor clause, was written into the law, without greater clarification—not, I sincerely believe, because mill executives South and North were not willing to recognize the rights of that vast army of workers employed in the industry, but because they feared that just what has happened would happen: that there would be unreasonable attempts of labor to unionize industry, based on false statements put forth by irresponsible organizers, occasioning unwarranted strikes and confusion contrary to the spirit of the movement and harmful and injurious to it.

Mr. Law

I believe I express the sentiment of southern industry in asserting that there is nothing in the National Recovery Act, and under the Constitution of the United States, nothing can be legally written into the Act, that will compel the humblest employee in industry to join this or that union, or that will deprive him of the rights guaranteed him under the Constitution to engage in legitimate, gainful occupation, without interference on the one hand, or coercion on the other.

The statement that the so-called merit clause in the code of the automobile industry, which code was duly approved by the President "was admitted through oversight" could only be justified on the ground of there being no need of insertion in the codes clauses amplifying the National Recovery Act, and not because of anything in the merit clause that was contradictory to the Act, or that was not in strictest conformance with previous decisions of the

This is a digest of a paper by Mr. Law presented at the meeting of the southeastern division of the Chamber of Commerce of the United States in Atlanta, Ga., November 20-21.

United States Supreme Court.

That the whole recovery movement, certainly from the standpoint of industry, has been retarded and placed in a false light by the strikes and disorder brought about by misrepresentation, there can be no doubt; and great credit is due to the Cotton Textile National Industrial Relations Board—composed of Messrs. Bruere, Berry and Geer—for the prompt and efficient manner in which they have brought to a quick conclusion such labor controversies as have occurred in the southern mills.

It is my sincere belief that the vast majority of employees in the textile and other industries of the South earnestly desire industrial peace, recognize that they have, through the National Recovery Act, gained almost over-night advantages which neither they nor their most ardent well wishers conceived of their being able to gain except most gradually and throughout a long period of time. The hope of this larger and more conservative element, and the earnest hope of their employers, is that their present higher wages, and reduced hours, may be maintained, and employment be continuous, rather than the whole plan menaced by a further reduction in hours that may prove disastrous to the entire movement.

But it must be recognized that there exists, in every industrial community, an always dissatisfied element, generally a small minority, who, under the influence of outside agitators, can run amuck and make trouble for both their employers and their fellow employees. If the government is to act, as has been claimed, not as a dictator of industry, but merely, as it should act, as a controlling force to bring the recalcitrant element into line, whether it be mill executives or mill employees, these disturbers of industrial peace should be made to understand that a fundamental principle of the Recovery Act is to live and let live; that definite facilities have been set up for the investigation of complaints and for the peaceful settlement of controversies; that the right to work, or not to work is a prerogative of the individual, and that interference with the exercise of this right will not be tolerated.

The Processing Tax

But while Paragraph Seven is a cause of gravest concern in its ultimate effect, the greatest burden so far inflicted upon the textile industry is the processing tax as administered under the AAA. Never before has any industry, after practically doubling its labor cost by curtailed hours of operation and drastic increase in wage rates, and with an already heavy tax burden, been asked to assume the additional burden of a tax equal to—and in many cases exceeding its pay rolls at previous rates; or, as Cost Engineer Loper so graphically puts it, exceeding the industry's profits in the best year since the war, or six times as much as the industry has been paying for all state, county and municipal taxes.

The cotton farmer himself realizes that as the largest buyer of cotton goods these taxes, if successfully administered by the processors, is passed right back to him, at least insofar as he is a purchaser. But what he fears even more and has from recent experience abundant reason for fearing, is that the great difficulty which the processor of cotton is experiencing in passing this tax on, after adding it to his greatly increased labor cost, will tend to deter the manufacturers from the free purchase of their cotton supply and possibly restrict consumption. At recent hearings in Washington with reference to the protection of the cotton producer and processor, through the provision for assessing compensatory taxes on competing products, such as paper, jute, rayon and sisal, nationally recognized leaders in farm movements did not stop at urging the prompt setting up of the compensatory taxes, but expressed themselves in no uncertain terms as to the injuries resulting to the farmer through the operation of the processing tax, and urged that it be abolished. This reveals the southern cotton farmer's aspect of the subject.

To digress somewhat, even the best friends of the movement for recovery find it difficult to gain their own approval of the destruction of the commodities which provide the principal elements of food and the cheapest form of clothing. Southern industrialists certainly share in the relief of the general public that the actual wasting of food products by the government, as reported in the West, was short-lived, and that meat obtained from the slaughter of hogs is being preserved for the needy.

The thinking people of the South, while not sharing in the superstition of negro cotton tenants as to the destruction of a growing crop of cotton, or in the feeling of the mules in their unwillingness to trample the stalks in plowing it up, do share a general hope that it will not hereafter seem necessary to destroy a divine-provided element of clothing, which, with proper housing, is practically imperishable, and hence could be kept indefinitely. This destruction seemed particularly illogical after the growing of the crop had been encouraged by governmental loans running up into the millions.

Whatever may be the idea of our friends from the Middle West who are administering the AAA, as to the conflict of interests between processor and producer, the southern textile manufacturer knows that his interests and those of the cotton farmer are not in conflict, but are absolutely interwoven and interdependent; that the farmer—not only in the South but in the great West and other sections—is his best customer. I have no hope for permanent recovery in the textile or other industry until there is recovery in agriculture. On the other hand, surely the cotton farmer and his friends must realize that while the cotton farmer is the manufacturer's best customer, the cotton manufacturer, here or abroad, is the only ultimate customer of the cotton farmer.

Our officials in Washington must pay more attention to the distribution of manufactured products and less to making financial concessions to foreign countries to induce them to buy our raw products, particularly our cotton, merely that it may come back in competition with American-made goods,

(Continued on page 42.)

A Discussion of Employee Home Ownership and

THE MILL VILLAGE PROBLEM

By a Staff Member

THIS comprehensive discussion of the mill village and home ownership among mill employees is of especial interest in view of the prominence which these subjects occupy in the minds of textile executives at this time . . . . . .

WHAT about the mill village? This question is occupying a conspicuous place in the thought of textile mill executives — particularly in the South—at this time, first, because the Cotton-Textile Code calls for a report with reference to employee ownership of homes by the first of 1934, and, second, because of the importance of the village, as it has come to be established as an apparently essential part of the southern mill program.

The reference in the Code reads: "It shall be one function of the planning and fair practice agency * * * to consider the question of plans for eventual employee ownership of homes in mill villages and submit to the recovery administration prior to January 1st, 1934, its report in the matter." This paragraph is mandatory in only two respects: that the question of "employee home ownership" shall be studied; and that a report shall be made prior to the beginning of 1934. As this paragraph reads, there is an inference that superficial consideration indicates that "employee home ownership" would be, theoretically, desirable; yet there is also an implication that this is impossible or impracticable.

So, the mill village—object of criticism and defense for years, yet retaining its undeniable position as an essential function in the growth and expansion of southern textile manufacturing, and apparently, an indisposable problem now—is officially recognized under the Code. It may therefore be well to study it, as well as its background and present relationships, and some interesting factual information bearing upon it. If "home ownership" is not generally practicable, then the turning of the spotlight on the village question may provoke study that will produce a solution to at least a part of the complicated problems that have resulted from the village system or that may have been responsible for its development.

It must, however, be borne in mind that while undoubtedly much of the spirit and principle of the New Deal will rightly abide after the period of the declared emergency, the legal tenets are only for a period of two years or whatever length may be given it in the power of presidential proclamation. Therefore, conservative yet progressive thinking must dominate a study of home ownership in order that it will not be too far out of line with practical changes that may develop by reason of economic or other developments.

Let us first consider, broadly, why the southern mill employees, generally speaking, have not owned their homes or desired to do so:

They, in keeping with thousands of others —including many of the white-collar class, find home owning is too expensive.

They can rent more cheaply than they can own, and have furnished to them advantages that they cannot buy.

They desire other things more than homes. They want cars, radios, refrigerators, entertainment, etc.

Their tradition of tenancy or lack of home ownership; their lack of self-confidence in financial matters; their inability to finance due to their lack of credit.

Their mobility, or, to use an industrial expression, labor turn-over.

A very important factor contributing to the mobility or labor turn-over of cotton mill employees, is the desire of a great many such workers to alternate between the mill and the farm. Most cotton mill families were originally engaged in agricultural pursuits and though they moved to the mills as a result

Courtesy, Robert & Co., Inc.

A view of one of the modern villages of Goodyear Clearwater Mills

of bad farming conditions or because of the attraction of greater cash income, they still feel some of the ties of the farm and return thereto occasionally. This moving back and forth between farm and mill is especially encouraged by the seasonal activity of the textile industry. When the demand for cotton goods is at a low ebb and curtailed production results in short time work or complete unemployment for the mill workers, many of them go back to the farms where they are able to produce the actual necessities of life until increased mill activity enables them to return to industrial employment. Many mill workers alternate between the farm and the mill by choice each year, staying on the farm long enough to produce sufficient staple food products to last them through the remainder of the year.

Under the new operating schedules established by the Code, cotton mill employees are finding it possible to live on the farm and work in the mill at the same time. By having some kind of a car—which most mill families possess—they can live as much as twenty miles from the mill and be able to drive in each morning by six or seven o'clock, work eight hours until two or three in the afternoon, and then have sufficient daylight time left to return home and cultivate a garden and a small crop. Or they may work on the farm in the morning and then drive to the mill for the second shift so that there is plenty of time for both activities. Better roads and cheap transportation facilities make it very easy for a mill family to live on a farm within driving distance of the mill and operate a small farm without interference with the jobs of those who work in the mills. Therefore, these families are not interested in owning a home in a mill village, for it is decidedly to their advantage to maintain their home on the farm.

Some Figures on Labor Turn-Over

With reference to labor turn-over, the following facts which were cited in Bulletin 52, U. S. Department of Labor, 1926, are pertinent:

1. Labor turnover in cotton-textile mills, North, 94.9%.
2. Labor turn-over in cotton-textile mills, South, 189.5%.
3. Labor turn-over in cotton-textile mills, North and South, 142.3%.

To prevent this from appearing too alarming, it should be noted that from "records taken from 16 to 176 plants, other types, over a 10-year period, it was found that in 6 of the 10 years the labor turnover in the plants reporting was more than equivalent to a complete turn-over; in the most stable year it was 62.7%; and in the most unstable year, 200.5%.

Now, to proceed with further figures pertaining to the cotton-textile industry: The prevalence of mill villages in the South, over the North, may seem to indicate that it has its influence. Here are the figures on that:

1. Labor turn-over in cotton-textile mills having villages, 144%.
2. Labor turn-over in cotton-textile mills not having villages, 139.4%.

Some further facts are pertinent to this subject:

1. Labor turn-over in isolated mills, 93.1%.
2. Labor turn-over in non-isolated mills, 181.3%.

The theory that home ownership makes a better worker and a more independent citizen may be true in many respects, but insofar as home ownership is concerned, it does not seem to have any bearing on labor turn-over, which, in turn, does have a bearing on home ownership.

Some very interesting facts regarding the "mobility" of cotton mill workers, are contained in a study of this problem, "Some Southern Cotton Mill Workers and Their Villages," made by J. J. Rhyne and published by the University of North Carolina Press in 1930. This study covers the total number of moves made by 355 of the 500 families investigated, and indicates the actual number of moves made by each mill family since its origin. Naturally, a different period of time is covered for each family but the general situation is somewhat comparable. The results of this study reveal that 77 of the 355 families (21.7%) had never changed their place of residence; 26.5% had moved only once; 15.2% had moved twice; 9.9% had moved three times and 5.0% four times. A total of 78.3% of the group had moved less than five times since their origin. It was found, further, that out of this whole group of 355 families, 23 had moved at least ten times since their origin; nine had moved fifteen times or more, and one family had moved thirty times during its history. Putting this data in another way, 78.3% of these families had moved one or more times; 51.8% had moved at least twice; 36.6% had moved at least three times, and 26.7% had moved four or more times. The average length of residence was 2.6 years.

Richard Woods Edmonds, in 1925, wrote in *The Manufacturers Record* that, at that time:

"The investment in industry for every square mile of southern area is $7101, while the wage earners number 1.6 per square mile. For every square mile of New England's area there is an investment of $85,680 and 20.3 wage earners in the same industries.

"But the cotton mills are not sown very thickly throughout New England. The two leading cotton mill states of the section are Massachusetts and Rhode Island. The density of industry in those two states together, computed as above, is $371,460 and 89.7 wage earners per square mile, respectively.

"In other words, the industrial development of the cotton mill section of New England is almost 50 times as dense as the industrial development of the South. It seems hardly likely that the majority of cotton mill help who will be thrown out of work by the occasional closing down of a mill will have to move many miles from present locations to find work in some sort of an industry, and very likely that the majority of them can commute by trolley to employment of some other sort without moving their homes at all."

This fact has an indirect, if not active, influence on home owning by operatives. It is not necessary to go into the study of labor turn-over, and, although figures may have changed, relations of figures have not likely done so. The area of the sixteen southern states is 969,237 square miles. It is easy to see that this moving van of employees would not want to be handicapped by owning a home when they would have to move so far to a new job. Expanse of territory is a ban to home ownership.

It must not be presumed that there are no employee-owned homes, because there are many who own homes, and farms; in many instances these people have been assisted in their desires by mill management.

In his 1930 study, Dr. J. J. Rhyne stated, "A

larger average number of wage-earners per family (2.15) was noted in the home-owning families than among the group as a whole (1.94). If actual need determines the number of wage-earners per family, the home-owning cotton mill family is in hardly as favorable circumstances as the family living in the company house. It is apparent that the nominal rent charge by the company is less than the investment and cost of upkeep of a home. Since the home-owning families were slightly larger than the group as a whole, the larger number of wage-earners in those families may be accounted for on this basis. To the extent that the owning of a home tends to tie a family to a particular locality, an additional disadvantage lies in the worker's inability to take advantage of opportunities for work in different localities. * * *"

Dr. Rhyne's figures as to the extent of home ownership among mill employees are enlightening. Among the 500 families in five North Carolina villages studied, out of a total of 492 houses, 419 were company owned, 13 were other tenant houses, and 60 were owned by the tenants. In another case he reported that "30 per cent of the wage earners either owned their homes or rented dwellings not owned by the mill," and made the observation that as long as this condition prevails, "one may question the validity of the attacks made on the industry" in connection with the housing policies of the companies. Dr. Rhyne's book is recommended for detailed study of the subject.

Maintaining Community Standards

Mill ownership of employee houses in the mill village is quite desirable from the standpoint of the employer, in order that the proper community standards may be maintained. By owning the property himself, the employer is able to prevent the influx of undesirable citizens into the mill community, since he can refuse to rent the houses to any who are not in keeping with community standards. By this policy he is able to keep out bootleggers and other such undesirables who would be objectionable to their neighbors and to the community at large. On the other hand an employee who owns his home in the mill village could, and would, sell his property to the first purchaser, if he should find it necessary to leave that particular mill, as many of them do. The mill would then have absolutely no control in maintaining the social and moral standards of the community as a whole.

Most modern mill villages are carefully planned and laid out in advance, being properly zoned as to residence and business sections. Without owning the property, the employer would be unable to prevent the establishment of a filling station or a hot-dog stand or some other business enterprise in the very midst of the most desirable residential section.

The health, cleanliness, and general attractiveness of the mill village can best be maintained by mill ownership of the property. No two employees are going to take the same care of their homes, and if the employees owned the property it would be impossible for the mill to force the proper maintenance.

Courtesy, Robert & Co., Inc.

A corner in Goodrich's Martha Mills village

Under mill ownership, all houses can be regularly painted and kept in proper repair, the streets and parks can be better maintained, and the general welfare of the community can be more consistently served, for frequently individual owners are either unable or not inclined to take care of these services themselves so that the standard of the community as a whole is thereby lowered.

But why does the administration feel that home-ownership by employees is so vital? It seems that it desires first to avoid what the public terms, in a critical attitude, paternalism, and, second, to show in money value the true wages of the workers so that the public will have a knowledge of real wages, and thus give a greater dignity to textile wages. The facts, pro and con, in reference to paternalism have been discussed so often that it is hardly necessary to go into this phase of the subject. The facts as to the evolution of the industry, of social life, the products of the village life, and many others, are so readily available to the fair and unprejudiced that we shall pass this criticism by. We do not pass any with complete approval, but in the feeling that progress has not stopped, and that in the creation of the southern industry, as it was developed under the conditions of the times, the mill village represented an essential part of the development.

Taking up the other assumed thoughts, it appears that the worker would have a greater responsibility, a greater dignity in his money worth, and the industry would have greater social and industrial recognition because the money wage scale would look larger.

The mill village is a factor in investment cost of a mill; it is a factor in the wage scale of the employee; it is also a factor that needs to be brought into the spotlight and publicized intelligently so that the public may appreciate its fairness and necessity. Some rule or rules co-ordinating the village wage and money wage must be formulated to cause them to show in one money value.

There are so many types of villages, in quality and quantity and location, that to set up a fair rule seems almost impossible, hence some general proposition for its solution must be made as a suggestion upon which to build.

The wage equivalent, or extra envelope pay, occasioned by the village, has always been controversial, and estimated or computed with various factors which result in figures all the way from $1.56 per operative per week to $4.36 per operative per week.

REPORT OF VILLAGE EXPENSE IN A GROUP OF FIVE SOUTHERN MILLS CUMULATIVE FOR YEAR 1932

	Mill A	Mill B	Mill C	Mill D	Mill E	Consolidated
Indirect Labor	$ 1,277.73	$ 2,672.05	$ 1,808.95	$ 1,277.86	$ 1,762.55	$ 8,799.14
Repair Labor	1,012.25	342.80	527.31	186.98	1,066.81	3,137.15
Supplies and Repair Parts	1,114.04	638.90	591.35	303.36	712.08	3,359.73
Deferred Expense		4,498.55		2,466.91	3,300.00	10,265.46
Expense Jobs						
Supplies	80.68		2,360.85	267.60		2,709.13
Repair Labor	18.00		139.65			157.65
Sub Total	98.68		2,500.50	267.60		2,866.78
Fixed Charges						
Interest (6% of asset value)	13,770.10	21,546.72	18,350.49	16,862.24	13,322.27	83,851.82
Taxes	4,462.77	13,159.90	7,902.96	3,117.40	5,439.98	34,083.01
Insurance	1,429.09	2,182.31	1,733.81	1,582.49	1,516.06	8,443.76
Depreciation	14,794.92	24,779.11	19,731.56	17,439.90	15,278.35	92,023.84
Sub Total	34,456.88	61,668.04	47,718.82	39,002.03	35,556.66	218,402.43
TOTAL COST	37,959.58	69,820.34	53,146.93	43,505.74	42,398.10	246,830.69
Income from Rent	13,942.29	26,131.10	14,347.55	15,596.07	12,138.41	82,155.42
NET COST—1932	24,017.29	43,689.24	38,799.38	27,909.67	30,259.69	164,675.27
Avg. Number of Employees	184	392	240	274	190	1,280
NET COST TO MILL PER EMPLOYEE	$130.53	$111.45	$161.66	$101.86	$159.26	$128.65
Number of Houses	99	221	136	130	104	690
NET COST TO MILL PER EMPLOYEE PER WEEK						$2.47

These wage equivalents have been figured two ways by two different groups. In one group, some of the manufacturers itemize everything in the village, i.e., houses, sidewalks, sewerage, lights, water, schools, upkeep, and all, as extra investment, and when interest on this is calculated and divided by the number of employees, a higher equivalent will be reached than figuring the simple matter of difference in rent charge and rents of similar houses out of mill villages, savings from cheap coal, groceries, etc., etc.

In other words, there may be a difference in what the mill may spend on its village, and its worth in money to the villager.

The wage scale of cotton-textile employees of the South always seems lower by reason of the fact that his extra envelope pay does not show on his pay check. The main purpose of the NRA is to make all money wages appear as labor value and give to the worker a better value for his ability and a realization of independence that he does not get when he works for and receives wages in money and unmeasured living conditions.

It is true that a small cost of 25 to 75 cents per room per week is charged, which in some cases is called an electric charge, a water charge, a village charge, or some other item. It is equally true that this charge in no way compensates the mill for its expense, as the accompanying table showing the village cost in a group of five southern mills clearly indicates.

Some Definite Suggestions

Since this is the case, and since wages are governed somewhat by this village factor, and since this factor is an intangible one in many cases, and since its present handling places wages in an unfavorable light and perhaps has an undesirable social effect upon the employee, and in some cases makes for wage discriminations, the following thoughts are offered for consideration in an effort to clarify the situation:

1. Arrive at a fair valuation of those investments or services that are distinctly of money value to the operative—housing, water, lights, etc. These must be uniform in listing.

2. Make this individual for each village. Include only those items of expense that have money equivalents to the operative, such as he would employ when living in a corresponding environment outside.

3. Arrive at definite return for investment, a definite figure for depreciation, and then, when these dollar values are set up, the rent percentage per dollar of investment may be easily figured. There is not such a variety in the type or cost of houses in the villages. The houses could be grouped or classed and rental assigned sufficient to offset this cost. Since it is paid by someone, either the employer or employee, it is of no serious consequence; if the employer pays it to the employee as wages and then collects it back from him as rent, or water or electric current, etc. Many villages have already installed water and electric meters and, inasmuch as these are definitely measurable quantities, they can be eliminated from the speculative rent figures.

4. Since it is impracticable to sell the houses in the village, and since the average employee does not desire to own a home in the village, and since wage equivalents in villages are under fire, it would seem highly desirable at this time for wages to be predicated on a fair return to the employer for the advantages offered by him by reason of the employee's living in the village. His money wages should be based on this as an added factor. It would also seem highly desirable now, while the industry is working under the NRA and while it has a very able and constructive industry committee, that these factors and plans should be worked out under and with governmental approval, so that the employers and employees can feel and know that every principle of fairness and justice humanly possible has been incorporated.

5. In studying these suggestions it must be borne in mind that the mills are not averse to home ownership and that they will, as heretofore, continue to assist worthy employees in securing homes suitable and acceptable to them as the need may arise.

The foregoing may not be the best solution, or even a solution, but it does seem to eliminate the village rent controversy. It would give to villages a cost factor definitely understood by employer, employee and the public. That the same rental charge could be made for all villages is an impossibility. That the same rental charge could be made for all rooms or houses in the same village is questionable. There are some complex factors in this suggestion, but it seems to put the employee on a definite idea of his money value in services, and on a definite money value of his cost of living, and gives to the employer a definite theoretical return on his investment. It should further crystallize in the mind of the employee whether he has the ability to own his own home. It could act as an intelligent stimulant or an intelligent deterrent to home ownership.

An Elementary Explanation, for the Textile Reader, of

MONEY and INFLATION

ONE of the most widely read editorial writers in the world has advocated the printing of billions of dollars in paper notes for distribution to ex-soldiers, creditors of insolvent banks, and for general governmental relief of the depression. The Governor of one State has suggested a similar note issue to be scattered impartially by dropping the new greenbacks from airplanes. Western farmers are rioting because they feel that the government is not doing enough for them in the way of relief. Governors, Senators, and others high in the administration of public affairs are urging inflation of the currency.

Amid all this hubbub, it is timely and wise for those who control large financial affairs and who have a large responsibility for property entrusted to their management, to do some level headed thinking about the question of money and inflation. The readers of COTTON are responsible to the owners of several billion dollars worth of property for the administration of that property. They are also responsible for trying to maintain employment for hundreds of thousands of persons who have to earn a living. Without entering into any controversy about the probable effects of inflation, COTTON feels that a brief discussion about what money is should be timely.

THE three ten-dollar bills, which not so long ago would buy a whole bale of cotton, are not really money. Practically everyone calls them money, and thinks of them as money, but they are really only warehouse receipts for money. The real money is locked up in the vaults of the U. S. Treasury, or in depositories designated by it. The thing that makes the ten-dollar bill valuable is the fact that the real money is in storage somewhere, and if you want it you can take the warehouse receipt and exchange it for the actual money. As long as you know that the real money is available upon demand, you do not care anything about having it, but are content to use the otherwise worthless strip of paper in its stead. Other people value this piece of paper for the same reason, and as long as it is interchangeable for real money, it is readily exchangeable for goods at the same value as the real money which it represents. The bill is absolutely worthless in itself, just so much so as rubles, marks, assignats, Confederate dollars, and other units of extinct currencies are valueless, except as souvenirs.

Money—"real money"—must be something which has inherent value in itself. For the past 150-odd years, gold has been practically the only real money worth mentioning. But many things have been money at different times. "Money", may be defined as "anything of inherent value which is customarily used as a generally acceptable medium of exchange in trade." In Biblical times, and for centuries throughout the ancient world, cattle were money. Our word, "pecuniary" is derived from the Latin, *"pecunia"*, which comes from *"pecus"*, meaning cattle. In colonial Virginia, tobacco was once money. The American Indians used decorative shells for money. In some African communities, knives are money.

In a complicated civilization like ours, however, we must have something of value which is more portable than cows, hogsheads of tobacco, or bales of cotton to use for money, and as gold and silver are readily acceptable objects of trade all over the commercial world, they have been used for money to the exclusion of everything else for a great many years.

The most important attribute of money, after its inherent value, is its stability value. The value of anything depends on its relative scarcity and the extent to which people desire it. Great new discoveries of gold or silver increase the supply of those metals, and therefore reduce their value, and where both are used for money it is difficult to establish the proper exchange rate between the two. For this reason, and because gold is more valuable in proportion to its weight, that metal has become the standard of value all over the commercial world.

Every reader of COTTON can probably recall the fall of the ruble in Russia and the mark in Germany, and will remember the terrible suffering that was caused in those countries by the complete paralysis of trade which accompanied the extinction of currency values. When the Reichsbank issued more paper certificates than it could ever redeem in money, the German mark depreciated, and as the issuance of notes increased, the value of the mark went down until it became worthless. If the United States Government issues more paper notes than can be redeemed in actual money, the value of those notes will fall in direct proportion to the amount of money which they represent. This is not a theory, but a very simple fact. Before this, governments have doubted that it was a fact, and have tried issuing notes secured by other things than money, and they have always found out by bitter experience that a piece of paper is not money simply because a government says that it is. The best illustration of this is found in the history of the French Assignats, and every person who will study this famous currency experiment will have a better knowledge of how inflation works. Complete accounts of the Assignats may be found in standard reference works, and the *Encyclopedia Brittanica* has a very good article on this subject. Every reader of COTTON should find this interesting and instructive reading, since the Assignats were issued to meet much such a condition as exists in our country at the present time. Furthermore, they were not simply paper currency in the usual sense of "printing press money." They were well secured, and represented tangible value. Unfortunately, they did not represent money itself, and therefore went the way of all paper currency which does not merely replace actual money which is held in reserve for the redemption of the currency upon demand.

Briefly, the French Government found itself in

such hopeless financial difficulties in 1789 that there seemed no way to avoid national bankruptcy. Disastrous wars had drained the country of its money, and crushing taxes were uncollectable. Trade was almost at a standstill on account of the scarcity of money, and the unwillingness of the few who had money to grant credit. The most valuable lands in France belonged to the Church, and were therefore tax-free. Other vast holdings belonged to the Crown, and also paid no taxes. Ushering in the French Revolution, the Constituent Assembly confiscated the lands of the Church and King, and declared them to be the property of the People. To meet the financial difficulties which confronted it, the Assembly proposed to pay its debts for carrying on the government by issuing notes which constituted an equity in these confiscated lands. These notes were to circulate as money, and were given preference in acceptance for the purchase of land. As they were returned to the Treasury in exchange for titles to land, they were to be retired and destroyed. Few doubted the success of the new currency. It seemed to be an issue which was inherently sound, as the value of the security behind it was estimated to be more than four times the amount of the issue.

Unfortunately, the Assembly overlooked the fact that no matter how well secured, the Assignats could not be exchanged for money, as there was little or no money in France. Equity in an abbey or a chateau meant little to the average tradesman or to the people who wanted bread, and not property. Comparatively few of the Assignats were redeemed through property purchases, and the government was soon in need of funds again. More Assignats were issued. As they fell in value, more were printed, until over forty-five billion francs were in circulation.

The French Government now realized what every government should keep in mind—that a government cannot create money. Money is created by trade, and is a real, tangible thing; valuable in its own right. When trade is good, money is plentiful; when trade is poor, money is scarce. This is forcibly demonstrated by present conditions, because while money is scarce, we now have about two billion more dollars in circulation than in 1929, when money was plentiful. This is because active trade made the movement of money more rapid, so that what was in circulation passed from hand to hand much faster, and the person who made some money and spent it, soon got it back again in trade.

The principal function of government with respect to money is the guarantee of fineness and weight in its coinage, and the guarantee of stability in its issuance of a circulatory medium to take the place of the actual money for everyday use. To illustrate this, suppose that all the gold and silver in existence should suddenly vanish, and something else had to become money. Since cotton is an almost universally used commodity, it might be chosen as the monetary basis, but on account of its bulk, it would be impossible to use much real cotton in trade. Therefore, warehouse receipts for cotton would be used as money, instead of the actual cotton. Instead of a ten-dollar bill, we would have a certificate stating that so many pounds of cotton were payable to the bearer on demand. As long as the warehouse receipts represented actual cotton, instantly available for delivery when demanded, these notes would have the full value of the cotton itself. But if the government should issue a quantity of notes which were simply promises on the part of the government to deliver cotton, but the cotton was not there to be delivered, then the value of the notes would go down with reference to the value of cotton.

What the Gold Basis Means

This is just what happens with a gold basis currency. There is nothing mysterious about it at all, and paper currency came into being in the manner just assumed for cotton. During the middle ages in Europe, there were no banks as we understand banks. The possession of much money was a very dangerous thing, as robbery and murder for robbery were common. Therefore, many persons left their gold and silver with the goldsmiths of the large cities for safekeeping. The goldsmiths had to provide protection for the precious metals they needed in their business, and they were glad to accept deposits to be safeguarded in their strong boxes. They issued receipts for these deposits, and proceeded to use the gold and silver in their business. Where the amount deposited for safety was greater than the goldsmith required for business purposes, he frequently lent to other goldsmiths, or to other persons whose credit was good. The depositor could easily negotiate the receipt of deposit if the goldsmith was well known, and his receipt acceptable as proof of the existence of the actual money. In this way, banking came into being, and notes of circulation came into use. Sometimes, the goldsmith was tempted to expand his banking activities, and issued more notes than he could redeem. He necessarily failed, and his creditors settled for what they could get out of his assets. His notes of issue were worth their pro rata share of the assets.

It makes no difference whether the issuer be a goldsmith, a banker, or a government, the principle involved is the same. The currency must be instantly redeemable in real money in order to keep the currency at par, and fully useful as a substitute for cash.

Changing the amount of money in a dollar is about as useful an expedient as changing the number of pounds in a ton. A dollar simply represents so many grains of gold, just as a ton represents so many pounds of anything. A dependable unit of money is just as necessary to trade as a dependable unit of weight or measure.

Cotton mills require a considerable amount of time to turn their raw materials into salable products, and it is very important that both buyers and manufacturers of cotton goods shall know with reasonable certainty what values are going to be over a fair period of time. Many thoughtful economists believe that much of the trouble experienced by mills in the past few years has been due to the violent fluctuations in the price of cotton. If uncertainty over the value of cotton has caused so much trouble, there is little reason to think that uncertainty over the value of the dollar is going to help matters.

The Use, in Finishing Cotton Piece Goods, of

Fillers, Weighting, Hydroscopic and Antiseptic Materials

By J. Andrew Clark

Chief Chemist, Dutchess Bleachery, Inc.

THIS continues the excellent series by Mr. Clark on the raw materials used in finishing cotton piece goods. Five installments have already appeared. The present installment begins a discussion of fillers, etc., which will be continued next month . . .

WHEN used in cotton finishing, mineral fillers are applied to increase the weight, extend the fibers and close up the interstices between the yarns as well as to produce opacity or covering effect, the purpose of this being to simulate the appearance and weight of better fabrics. These materials have no adhesive properties in themselves and are necessarily bound to the fibers by the fats, starches and gums used in conjunction with them in the finishing mix. Insufficient starch or gum permits these fillers to become loosened from the fabric on handling, and this is known as "dusting". This is quite often found to exist on heavily backfilled goods and can readily be observed, if existing, by tearing the cloth with the hands. Liberation of dust is usually the indication of either excess filler or insufficient binding material. Consideration of physical rather than of chemical properties generally is the basis of their selection for a specific purpose, although in many cases, price is often a deciding factor in this. Clay, talc, and gypsum are the principal minerals of this group, although other white minerals are used to a lesser extent, any of which may be used in either starch mangle or backfilling operations.

Clay

The clay found most suitable for textile finishing is a china clay occurring widely distributed east of the Mississippi in the United States and at Cornwall, England. This is a hydrated silicate of aluminum which results from the weathering of rock containing feldspar. The leaching of this feldspar, which is a double silicate of potassium and aluminum, by water containing carbon dioxide, removes the soluble potassium components and leaves the clay as a white powder.

Clay generally is classified as primary or secondary, which indicates the relative position of the bed in relation to the location of the origin. Primary clays are those which have not been transported by the action of natural waters from their original positions, while the secondary clays have been so transported. China clay, kaolin, or kaolinite is a primary material of white color with only very little impurities and is the clay of major importance for textile purposes. Since much of the parent rock, silica and mica, may occur with the clay, its separation by washing is employed to secure sufficient purity and freedom from grit. This clay is generally granular or crystalline and has only little plasticity in contrast to the secondary clays, which owe their plasticity to the fact that the corners of the crystalline particles have been removed by abrasion when transferred by water to their secondary position.

The English clay is suspended in water at the mine and pumped to refining floors, after an initial settling, when the small particles of sand and grit are removed by passage through a water classifier, approximately 200 feet long, containing numerous baffles. The out-flowing clay-water then passes to large pits where settling takes place. The clay is then transferred to larger pits for further settling during several weeks. At the expiration of this time, the clear supernatant water is drawn off, following which the concentrated mixture is dried in large compartment driers. The finished product is usually shipped in half-ton casks.

The product is marketed as a compact, mealy, and earthy smelling material with a specific gravity of 2.2 to 2.65. While the best grades of clay are white, the color of the lower grades is somewhat yellow to buff due to small amounts of impurities such as iron or organic matter. It is claimed that the lower qualities are sometimes tinted with blue to disguise this yellow caste and to raise the grade to an apparently higher standard. The chemical composition moreover is not constant, but varies somewhat through the bed and from one deposit to another. Those clays having the higher percentages of aluminum are believed to possess the smoother feel, while the clays with lower iron content have less yellow color in general.

The chemical analysis of clay, other than for moisture or artificial tinting is rather tedious and of doubtful value in determining its suitability as a textile finishing material. Tests of a physical nature are, however, of much more importance in determining its value, such as the screen test, test for grit and color comparison. The screen test serves

as a measure of the fineness, for which a 200-mesh screen is ordinarily used. A weighed sample is washed through the screen with water, after which the residue is collected, dried and weighed. This should be not over .25 per cent residue. The flotation test for grit gives results with numerical values and is much superior to the old method of testing between the teeth or glass plates. The test is based on decanting a supernatant clay-water from a suspension of the weighed sample in water under definite conditions. The remaining grit after being washed and dried is weighed. Good grades of clay do not show over 1-2 per cent by this test. The color of these fillers is generally observed by flattening a small pile of each clay for comparison on a piece of white paper with a spatula. When only slight differences in color exist, differences in lighting may influence the appearance to some extent. It is, therefore, well to reverse the samples in relation to the light before making a decision.

The following are some typical analyses by two authorities, the first two English and the third, a Virginian clay:

	No. 1	No. 2	No. 3
Silica	46.77	45.89	50.02
Alumina	40.13	40.70	35.18
Iron Oxide	.38	-- --	.36
Lime	-- --	-- --	.12
Magnesia	-- --	-- --	.07
Alkali Salts	1.14	1.49	3.39
Water	11.58	11.92	10.57

As prepared for finishing the clay is generally boiled, or sometimes agitated cold in large tubes equipped with mechanical agitators. Definite quantities of water and clay are used and the mixing is performed until the lumps are thoroughly disintegrated and worked into a homogeneous paste. Unless the clay is so treated, it is impossible to get it uniformly mixed with starch in a finishing batch. Small lumps of clay remaining unbroken when applied to the cloth would cause excessive dusting after finishing. Finishers have, therefore, found it desirable to keep such suspensions of clay on hand as stock mixes, from which withdrawals may be made when compounding formulae. On boiling with starch, clay causes the mix to appear opaque, a property that it also imparts to the cloth after finishing, along with a flat and dull appearance. This may be modified to some extent, however, by the addition of gypsum with clay, especially for goods intended for calendering, since this material gives a glossy surface after this operation. Such mixes are commonly used in backfilled shirtings. Clay has, in fact, the maximum covering power of any of the mineral fillers. This material, moreover, is generally used when the maximum weighting is desired. Care must be exercised, however, to prevent excessive use of this material or "dusting" will result, since starch binds 1½ to two times its weight of this material successfully and if this ratio is exceeded, trouble may be encountered from this defect. Binding agents though, such as rosin size, and various gums, permit even greater amounts to be used satisfactorily. It is also generally necessary to incorporate softeners with such heavy mixes to overcome the harsh effect produced by these large amounts of clay. The heavy mixes are generally applied by backfilling while the lighter mixes are applied with the starch mangle.

Talc

Talc is a hydrated silicate of magnesium, and is obtained from the mineral steatite or soapstone. This is a soft, flexible and foliated mineral possessing a greasy feel and a pearly luster, with a specific gravity of 2.55 to 2.80. Deposits in Italy, France and California are the main sources of this material, of which the Italian is considered to be the best, both in regard to color and "slip". This, however, commands a price as to practically remove it from the textile field. The French product has been more in demand than the domestic material in spite of a lower color. While French talc may be of somewhat softer texture, the condition of the foreign exchange has suddenly made many finishers, or if not finishers, purchasing agents, recognize their ability to use the American product to good advantage.

The various grades of talc are determined by color selection and after selection, the rock is screened over a ½-inch mesh to allow removal of the cleavage impurities. The large pieces are then ground in a Raymond mill and air-separated. The various impurities are usually quartz, calcium carbonate, mica, and iron, but are practically absent in the better grades. With the exception of iron, these impurities produce a gritty feel and their presence must be guarded against, since any appreciable amount rapidly dulls needles and knives used in sewing and cutting the cloth, which leads to complaints from the manufacturer.

As in the case of clay, physical testing is of major importance in determining the suitability of talc for finishing, while chemical methods are of value also in estimating the amount of lime, gypsum, iron and loss on ignition. The moisture content of talc is usually low, commonly less than ¼ per cent, while the calcium carbonate may be present up to 4 per cent in the better grades, although low grade talcs containing as high as 12 per cent can be used in backfilling. The presence of iron oxide in appreciable quantities has a tendency to dull the white, while a specific gravity above 2.7-2.9 may indicate adulteration with feldspar or barytes. The following shows a comparison of three talcs, No. 1 French and Nos. 2 and 3, domestic:

	No. 1	No. 2	No. 3
Specific Gravity	2.71	2.58	2.19
Loss on Ignition	5.29%	1.01%	20.01%
Color after Ignition	White	White	Brown
Moisture	.12%	.082%	--

Viewed in the microscope, the particles are seen to be flat, irregular, transparent or nearly so, and show sharp fractures. The laminated structure is also clearly visible. Rubbed between the fingers, it has a characteristic soft, greasy, smooth feel, properties which it imparts in great extent to the finish in which it is used.

Talc produces the smoothest and softest feel of

the mineral fillers with a covering power second to clay. It does not, however, mix as well in the starching formula because of the difficulty of thoroughly wetting the surface of all particles, many of which may be seen floating on the surface of the mix, with a slight tendency to dust for this reason. Softness and freedom from grit is especially important in this material when used in heavy mixes applied to fabrics intended for the cutting-up trade. High speed needles are quickly heated and dulled by small amounts of grit. This may be so pronounced as to cause the needle to actually turn blue for a half inch from the point. Cutting knives are also sensitive to this difficulty. Lubrication with sufficient softener, on the other hand, is essential, since needles and knives may be heated excessively when operating on cloth containing no finish of any kind. Addition of small amounts of softener has been known to eliminate this complaint entirely about such fabrics.

Calcium Sulphate

Calcium sulphate, another filler, is sold under several trade names, as well as by its mineral name of gypsum. This is a hydrated form of calcium sulphate containing two molecules water of crystallization and if occurring in monoclinic crystals, is known as gypsum or selenite, but when in granular masses, is known as alabaster. Another form of crystalline calcium sulphate containing no water of crystallization is known as anhydrite, but while oc curring frequently along with gypsum, is not suitable for finishing because of its extra hardness and dark color. Gypsum is widely distributed throughout the United States and other countries. Immense deposits in Oklahoma, Kansas, Michigan, Eastern Canada and Nova Scotia are of sufficient purity to yield a product of the first quality and are extensively worked. This material is used not only in finishing textiles, but considerable quantities are consumed in the paper industry and for the manufacture of plaster of paris. These deposits occur often associated with beds of rock salt and almost always interstratified with layers of shale and limestone, while immense dykes of anhydrite occur in the Nova Scotia deposit. Impure deposits are known as gypsum earth or gypsite.

The deposits in Nova Scotia are extensive and are several hundred feet deep in places, which necessitates both underground mining and open pit quarrying to work it. The rock is crushed at the mine to three-inch size and shipped to the grinding mills where it is graded according to color and freedom from impurities. This rock is then crushed to ¼-½-inch size and passed over a magnetic separator to remove tramp iron. It is then commonly ground in burr mills with flint stones to 100-mesh or in a Raymond mill. Air separation may then be employed to remove the material passing through a 200-mesh screen which yields a product, 96 per cent of which passes a screen of 325-mesh. The English product was long considered whiter than the domestic, but improvements in American procedure have reduced this difference in color to be negligible when the better domestic grades are considered. The superiority of the English product was due originally to the care exercised in hand cleaning and selection of the rock before crushing, women and children doing this work cheaply in that country. Improved equipment and procedure in handling the domestic product has resulted in a material of excellent fineness, freedom from grit and of excellent and satisfactory color. The high exchange rate will undoubtedly influence more finishers in their selection of this material. A representative analysis of a Nova Scotian gypsum is:

Combined water	20.46%
Silica and insolubles	.34%
Iron and Aluminum oxides	.12%
Calcium Sulphate	77.42%
Calcium Carbonate	1.45%
Magnesium oxide	Trace
Salt	.26%
Through 100-mesh	100%
Through 200-mesh	92%

The several values vary somewhat according to the deposit, but in general, the combined water runs from 18.5 per cent to 20.5 per cent while the calcium carbonate should not exceed 4 per cent, but may be less than 1 per cent in some grades. Like the other minerals, grit and iron should be at a minimum in the better grades. Physical testing is important in checking the grades.

In finishing, gypsum has little covering power and is used to give weight when a lustrous and glassy surface is required. The surface seems somewhat transparent, especially when heavily calendered. It can be incorporated in heavy mixes in larger amounts with less danger of dusting than clay or talc, a property which is thought due in some measure to the slight solubility of the mineral in water. Poor grades of this material are objectionable, not only because of its low color, but because large particles of grit may catch under the doctor blade to give streaks in backfilling, with possible cutting of the filling threads at that point. Gypsum itself is harder than talc, the former having a hardness of 2, the latter 1, on a scale of 10. Gypsum is often used in combination with clay or talc to modify the effect produced by either one, a ratio of two parts of clay to one of gypsum being commonly used.

Magnesium Silicate

Various other materials may be used for fillers among which is a white, natural form of magnesium silicate found at Natural Bridge, New York. This material is mined and pulverized to pass 99 per cent through a 325-mesh screen. It appears to be intermediate between clay and talc in properties and has accordingly been named talc clay. This material is quite soft and has an excellent white color. It is claimed that the effect of this softness has been reflected in the longer life of needles and cutting knives before heating. Compared to talc, it is not so liable to dust in heavy mixes and although one of the lesser known fillers, it is gaining in popularity.

(The second section of this discussion, to cover magnesium sulphate and chloride, glycerine, starch, mildew, etc., will appear in the January issue.—The Editor.)

A Report of Textile Developments under the NRA and AAA

NOVEMBER saw the various branches of the textile industry working under their respective codes, with amendments being made in a number of ways. On November 10th, President Roosevelt approved amendments to the code of fair competition for the cotton-textile industry which placed under the provisions of that code, in addition to those divisions already reported, the cotton thread, yarn mercerizing and cotton and rayon finishing industries. Following this approval, the definition of productive equipment section of the code as amended read as follows:

> "The term productive machinery as used herein is defined to mean (1) spinning spindles; (2) looms; (3) printing machines; (4) piece dyeing machines; (5) starching and/or drying machines, operating on fabrics and not on raw stock or yarn or cotton thread where the same are used for the major operation in the production of plain bleached or unbleached fabrics which are not dyed or printed; (6) all machinery used for spooling, winding, reeling or skeining as a final process to produce cotton thread ready for sale as a finished article; (7) cone winding machines, reels, through tube cop machines and parallel tube winding machines used in the production of mercerized yarn only."

The other provisions of the original cotton-textile code apply to the branches just put under it, with some exceptions; $1.00 a week higher minimum wage North and South than the other industries is provided for cotton and rayon finishers. As to machine hours, these are restricted to two 40-hour shifts in the three new branches except the mill finishers. For them, operation of finishing machinery, except printing machines, for a sufficient number of hours to finish fabrics woven on their own looms only is permitted, until any such finishing operation exceeds two shifts of 40 hours each to be determined to be an unfair competitive practice.

This amendment of course adds to spinning spindles and looms the other "productive machinery" as defined in the section quoted, and places the same impositions upon installation of equipment of this type for expansion, etc., as defined in the address of B. B. Gossett, relating to spindles and looms, reported on page 37 of the November issue of COTTON.

Rather than being entirely a prohibition of new equipment of all kinds, as has been construed in general press stories, etc., this provision of the code, it should be borne in mind, relates only to the equipment specifically defined as productive machinery, and even here, provides a tremendous field for replacement; in addition, it permits installation of efficient equipment not specified as being productive. In this connection, two quotations from the report of Mr. Gossett, as chairman of the plant extension committee of the Code Authority, well deserve repetition: "This provision need not cause uneasiness on the part of machinery builders, as the code places no hindrance upon the installation of looms and spindles for replacement or for legitimate balancing purposes. Of course, there is no restriction whatever on preparatory machinery and other important equipment."

Stressing the need of replacing worn-out and obsolete equipment, Mr. Gossett very pertinently observed:

"It should be remembered that decades of life and operation have taken their toll in efficiency of mill equipment. Then, in addition, there is the all-important question of new inventions and improvements that are rendering obsolete processes and methods as well as machinery previously considered efficient. Therefore, to my mind, if the operation of the code proves to be successful, and mills are enabled to make a profit, there will be far more business in sight for machinery builders in replacements than if the industry continued to pursue the unprofitable path it has followed for the last several years."

During the month, George A. Sloan, chairman of the cotton-textile industry committee, appointed two planning and advisory committees to serve as subcommittees of the Code Authority. One of these, covering the Fine Cotton Goods Group, consists of:

N. F. Ayer, Cabot Mfg. Co., Boston, Mass.; W. E. Barrett, Maverick Mills, Boston, Mass.; Allan Barrows, Gosnold Mills, New Bedford, Mass.; James A. Burke, Sagamore Mfg. Co., Fall River, Mass.; H. H. Burton, Slater Mills, Inc., Webster, Mass.; Morgan Butler, Hoosac Mills Corp., Boston, Mass.; W. W. Coriell, Nashawena Mills, New Bedford, Mass.; Major Stuart W. Cramer, Cramerton Mills, Cramerton, N. C.; Robert E. Henry, Dunean Mills, Greenville, S. C.; Weston Howland, Warwick Mills, Warwick, R. I.; Russell H. Leonard, Pepperell Mfg. Co., Boston, Mass.; Homer Loring, United Merchants & Mfgrs., New York City; John H. McMahon, Berkshire Fine Spinning Associates, Inc., New York City; G. H. Milliken, Judson Mills, Greenville, S. C.; Frank I. Neild, Neild Mfg. Corp., New Bedford, Mass.; and George M. Wright, Republic Cotton Mills, Great Falls, S. C.

The other committee, for the Carded Yarn Group, includes:

W. D. Anderson, Jr., Bibb Mfg. Co., Macon, Ga.; Cason J. Callaway, Callaway Mills, LaGrange, Ga.; Donald Comer, Avondale Mills, Birmingham, Ala.; S. P. Cooper, Harriet Cotton Mills, Henderson, N. C.; Philip Dana, Dana Warp Mills, Westbrook, Maine; F. C. Dumaine, Jr., Amoskeag Mfg. Co., Boston, Mass.; A. M. Fairley, Waverly Mills, Laurinburg, N. C.; B. B. Gossett, Chadwick-Hoskins Co., Charlotte, N. C.; Fred Rakestraw, Philadelphia; Edwin F. Sherman, Pres., Cotton Yarn Merchants Assn., Philadelphia; and A. K. Winget, Efird Mfg. Co., Albemarle, N. C.

It is understood that these committees will serve as planning and advisory committees for their respective groups, studying market conditions, group statistical data, and representing the group in all matters requiring the attention of the Code Authority.

In connection with the announcement of these committees—with others covering other divisions of the industry planned—it is interesting to refer again to the report of Mr. Gossett (page 37, November COTTON), stating that the code as it now stands is not "adequate to bring about stabilized conditions. There are groups in the industry wherein 80 hours for looms and spindles would afford too much production. These groups have the task of working out production schedules more appropriate to their particular situation, within the 80-hour maximum which the code imposes." Similarly, Ernest N. Hood, as president of the National Association of Cotton Manufacturers, said:

"It appears that the industry at large has accepted the idea that two 40-hour shifts mean normal production, but this is not so. * * * Statistics of the industry as a whole indicate that normal demand can only be met by operating all the spindles in place an average of over 60 hours per week throughout the year, but this average of 60 hours per week of course would not apply to all branches of cotton manufacturing. Production can be satisfactorily controlled only through group action. * * * It is apparent that the various groups within the industry will be able to function in an effective way, with the full authority of the administrator co-operating to compel the compliance of any recalcitrant minority. * * * It should be a comparatively simple matter for a group such as wide sheetings to decide upon a uniform production schedule, applicable alike to all members of this

group, which would insure a balancing of production and consumption."

With a continuation of the selection of committees representing various divisions of the industry, an approach could be made to such a set-up as suggested by Mr. Hood and indicated by Mr. Gossett.

Labor Developments

A number of labor disturbances, strikes, etc., marred the smoothness of code operation in some quarters, but each case was promptly acted upon through the Cotton Textile National Industrial Relations Board. On November 13, the development of an administrative code for labor and management in the industry received impetus in a conference between this relations board and the Code Authority, the Cotton Textile Industry Committee. As a result of the conference, it was pointed out that for the first time in the history of any industry under a code, machinery has been devised whereby a governmental body, composed of representatives of labor, industry and the public, will be able to closely collaborate with an entire industry in working out detailed problems of working conditions and placing them on an actual administrative basis, thus taking them out of the realm of controversy.

Sanction by the industry of such administrative machinery came as a result of study by representatives of the industry committee of the experiences of the Cotton Textile National Industrial Relations Board in handling labor problems of the industry under the code. The state boards in each textile manufacturing state have original jurisdiction in the administration of problems of working conditions in the local mills. Boards in the mills are composed of representatives of the workers and managements; in the state and national boards, representation is provided for industry, labor and government.

Through this system, labor problems in the industry are handled. Supervision of this administrative set-up is handled by the national board, composed of Robert W. Bruere, chairman; B. E. Geer, representing industry, and George L. Berry, representing labor.

As an example of the type of administrative action developed by the National Industrial Relations Board may be cited its solution of the strikes of various southern mills in November.

Upon visit of the board to consider the disputes involving thousands of employees of the Seminole, Aiken, and Langley Mills, in the Loring group, and the Graniteville Mfg. Co., in the Horse Creek Valley section of South Carolina, and employees of the Globe, Sibley and Enterprise Mills, Augusta, Ga., it was found that both employers and employees would agree to settlement on the basis that the procedure concerning the solutions raised by the controversy would be determined by the national board, through its subsidiary state boards. This included the procedure as to the application of Section 7 of the N.I.R.A., regarding collective bargaining, when construed in connection with that part of the cotton-textile code setting up plant committees.

Final determination of the problems of these mills was to be worked out through the machinery set-up under the code. The principle involved, however, of taking up problems of working conditions in the industry for consideration by all parties concerned, has been firmly established as formal procedure by the action of the industry committee in approving the methods used by the national board.

Tire Mills Put on Two Shifts

Under permit of President Roosevelt, mills manufacturing tire fabric have, since the institution of the cotton-textile code, been allowed to operate three 40-hour shifts weekly instead of being limited to two such shifts, as is the case in the remainder of the industry.

By an executive order of President Roosevelt in November, this exemption from this code provision was removed, effective on November 20, so that tire cord mills were restricted to a maximum of 80 hours, or two 40-hour shifts. The original presidential order terminated the stay of provisions on November 13, the date being moved ahead later until November 20 on plea of the tire companies. The companies principally affected are Firestone Tire & Rubber Co.; Goodyear Tire & Rubber Co.; United States Rubber Co.; B. F. Goodrich Rubber Co.; General Tire & Rubber Co.; Fisk Tire & Rubber Co.; and Dunlop Tire & Rubber Co., although the stay was intended to cover any cotton textile mill producing tire fabric.

Following a hearing the latter part of November, for permission for the tire mills to continue to operate three 40-hour shifts, Recovery Administrator Hugh S. Johnson announced definitely that this permission was refused, and immediately, the tire mills must cut to the maximum of 80 hours allowed in the code.

Cotton-Textile Production Cut 25% for December

At press time, George A. Sloan announced (December 1) that General Johnson had approved a recommendation of the cotton textile industry code authority that productive machinery in the industry not be operated more than 75 per cent of the hours otherwise permitten by the cotton-textile code. This reduces the limit of operation for December from 80 hours weekly to not more than 60 hours weekly. This applies to all cotton-textile mills, except tire fabric mills.

AAA and Processing Taxes

The AAA and its processing tax on cotton, without compensatory taxes on competing fibers, continued in November to harass the cotton textile mills. Following the original hearing on July 31 and August 1, and the second, on October 2, to consider taxes on other fibers, a third hearing was held by the AAA on November 9, at which time the Cotton-Textile Institute and other representatives of the industry presented testimony urging that compensatory taxes be levied on rayon and other synthetic yarns, silk, linen, wool, mohair and all other competing fibers.

Compensating Taxes Placed on Jute and Paper Products

As this issue goes to press, Secretary of Agriculture Wallace announces, on December 1, the placing of compensatory taxes on jute fabric and yarn and paper products competing with similar cotton articles, under the terms of the Act empowering him to impose such taxes on commodities which obtained a competitive advantage over basic commodities already carrying a tax. The secretary agreed with the contention that there has been an excessive shift in consumption away from cotton products. No action was taken as to a tax on rayon, silk, flax, wool, etc., was announced.

A tax of 2.9 cents per pound on the first domestic processing of jute fabric into bags was imposed; and the same tax on jute yarn on its first domestic processing into twine. Paper will carry a tax of 2.04 cents per pound on its first domestic processing into multiwalled paper bags; 3.26 cents per pound on first domestic processing of coated paper into coated paper bags; 2.14 cents per pound on open-mesh fabric, first domestic processing; 0.715 cent per pound on first domestic processing of paper into paper towels; and 4.06 cents per pound on first domestic processing of paper into gummed paper tape.

Controlling Stretch on Slashers

THIS article lists five of the major causes of stretch on slashers, and gives practical suggestions for overcoming them; as well as describing an efficient method of determining the amount of stretch by means of yardage counters . . . . . .

By A. Tester

THE slasher room is one department of the mill that does not receive the attention that it deserves. Slashers are the "bottle-neck" of the mill. Poor yarn can be improved by good slashing, and good yarn can be spoiled by bad slashing. It will be the purpose of this article to discuss slashers, and the subject of stretch on slashers in particular, in the hope of giving some information of use and of starting a discussion along this line.

Warp yarn may be compared, in simple terms, to a rubber band; it will stretch just so far, and if it is pulled a little more it will break. If the elasticity of the yarn is taken out at the slasher by being run too tight, then when it gets to the loom it will break instead of stretching as it should. There are five places on the slasher where the yarn is stretched.

1. Too much weight on the section beams. There should be just enough weight on the beams to keep them from kinking when the slasher is stopped. On cast-iron head beams there will have to be more friction than on high speed warper beams. The reason for this is that the wooden head beams are balanced and the cast-iron head beams are not.

The sketch in Fig. 1 shows how to run the wooden head beams with a minimum of friction. When the

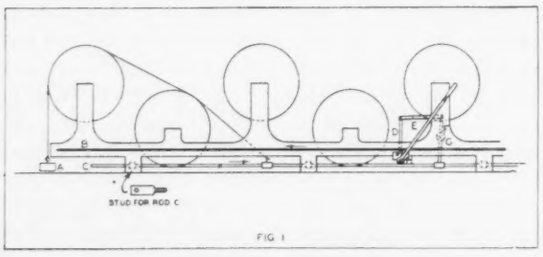


FIG. 1

slasher is running, the weight *A* rests on the floor, and when the slasher is stopped, it is picked up off the floor and keeps the two back beams from kinking. Rod *C* works in the opposite direction to that of the shifter rod *B*. This is done by fastening with set screws the arm on the shifter rod *H* that goes across the creel; then arm *E* is fastened on a stud on *D* and *F* so it will work freely. Arm *F* works on a stud *G* fastened on the side of the creel.

The weight *A* should rest on the floor when the slasher is running and the rope tight. The rope is run over the two back beams as shown in the sketch.

2. The first copper roll is sometimes smaller than the second one. The first one is the one that the yarn goes over first. These rolls should be calipered, and if they are not of the same size, the larger one should be in the back of the size box and the smaller one next to the cylinders. When the first roll is smaller than the second one, the second roll tries to take the yarn

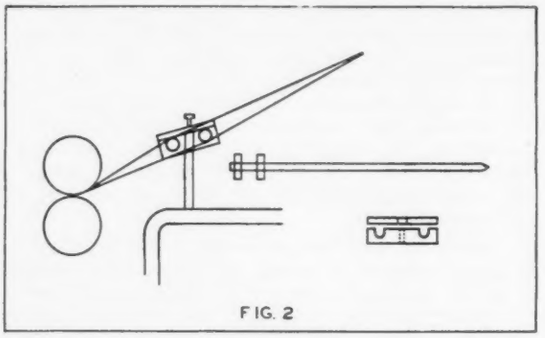


FIG. 2

up faster than the first roll will deliver it, and this stretches the yarn.

3. Improper gearing. There are several ways to check this. Feel of the sheet of yarn going from the size box to the big cylinder, and if it is very tight, the gear on the big cylinder should be changed. It is very important to have the yarn as slack as possible at this point, as wet yarn stretches much more than dry yarn. Another way is to mark the yarn and cylinder with a piece of chalk where the yarn first comes in contact with the cylinder, then notice these chalk marks where the yarn leaves the cylinders. If the chalk mark on the yarn is ahead of the mark on the cylinders, it shows that the yarn is slipping and

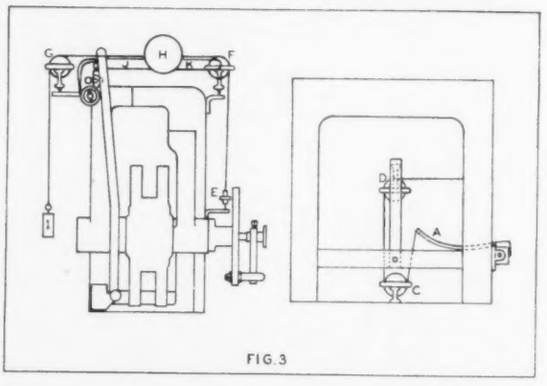
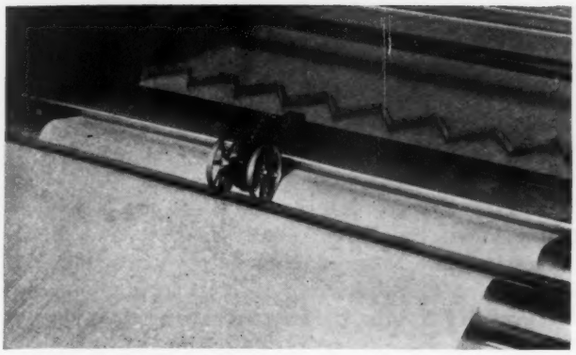
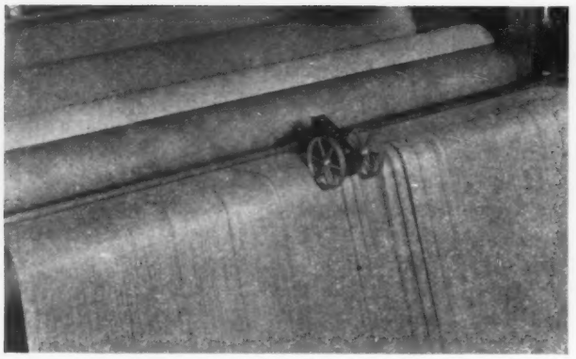


FIG. 3

the cylinders are not going fast enough. Another way is to notice the small gear that works in the segment gear, and also the teeth in the segment gears on the cylinder. If they are worn on the wrong side, it shows that the small gear is not driving the cylinder but is acting as a brake. A way to check any excessive stretch is to take a roll of adding machine paper and saw a roll off about ⅜-inch and run it through the



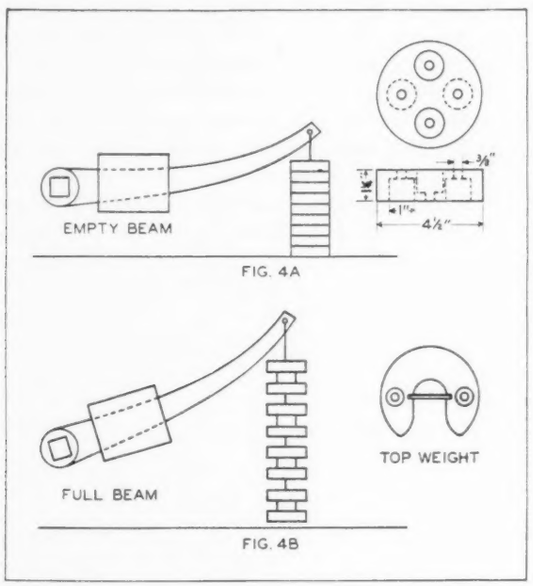


Courtesy, Veeder-Root, Inc.

Counters used at front and back on slasher for measuring stretch

squeeze rolls and over the cylinders with the yarn. If there is any excessive stretch between the size box and the cylinders, or between the cylinders, the paper will be pulled apart.

There is now available a ratchet gear drive for slashers that is very good. Sometimes one tooth difference in the change gears will be too much, so with



the ratchet gear, it will slip a tooth or two when the yarn gets tight, eliminating a lot of stretched yarn.

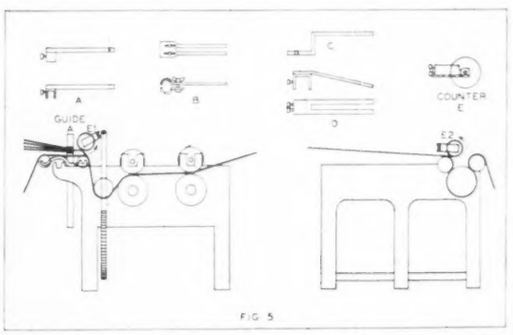
4. Running with too much cloth on the drag roll. Notice the yarn back of the big split rod. If the yarn is splitting five or six inches back and the sheet of yarn is tight, there is too much cloth, and a round or two should be taken off. Sets with a small number of ends do not need as much cloth as a heavy set. In a mill where sets with a small number of ends and sets with a large number of ends are run, the slasher man sometimes fails to take off cloth from the drag roll, when changing from a heavy set to a light set. Every overseer should make it a practice to feel of the sheet of yarn every time he passes the slashers, and, if the yarn is too tight, have some cloth taken off of the drag roll.

When running medium and heavy sets, if a double split rod like the sketch in Fig. 2 is run between the size box and the big cylinder, the sheet of yarn will split much easier behind the big split rod at the front, and it will take less cloth on the drag roll to split the yarn, thus eliminating some stretch.

5. Running with too much friction. It takes more friction to pull the beam as the beam builds up. The sketch in Fig. 3 shows an attachment to increase the friction as the beam builds up. Arm *A* is fastened to the square shaft of the presser roller attachment. A braided wire or heavy spooler band is fastened to arm *A*, passes under the small pulley *C*, which is fastened to the floor, then over pulley *D* to pulley *E*, then over pulley *F* and fastened to sliding weight *H*. Another band is fastened to sliding weight *H*, then over pulley *G*, and a small weight *I* fastened to the end.

When the beam is started, weight *H* is at *J*, and as the beam builds up it moves toward the end of the lever at *K*, gradually increasing the friction. If the weight *H* is not heavy enough for heavy sets, a hook can be fastened at the bottom and an extra weight added.

In Fig. 4-A and Fig. 4-B is shown an attachment to put on the presser roller weight arm to increase the weight as the beams build up. This is made of weights as shown in the sketch, with two large holes on each side drilled almost through with a 1-inch drill, and finished with a ⅜-inch drill. The weights are fastened by 5/16x2½-inch bolts. The weights are on the floor when the beam is empty, and as the beam



builds up the weights are picked up one at a time, increasing the pressure on the beam as it builds up.

The most accurate way to find the percentage of stretch on a slasher is to use two yardage counters with yarn wheels in the manner shown in Fig. 5. Place in the creel four spools of the same number of yarn that is being run on the slasher. Put the ends through

guide *A*, under and over the yarn wheel on counter *E-1*, fastened on the rod that runs across the immersion roll racks with bracket *B*, and then on through the size box and over the cylinder with the rest of the yarn. Separate the four ends at the front with an extra split rod over the others, and then under and over the yarn wheel on counter *E-2* and then around the drag roll with the rest of the yarn. Someone will have to stand in front of the slasher to pull the extra ends off so they will not go on the beam.

After the yarn has been put through the slasher and over the counters, set the back counter to zero and mark the yarn with cut mark dye. Run this mark to the front counter and set it at zero. Run 1,000 yards on the back counter and mark and then run this mark to the front counter and note the difference. This will be the amount of stretch. If the stretch is much over 1 per cent the different items mentioned should be checked carefully.

In Fig. 5, *A* is a guide for the back counter, *B* is a clamp for fastening the back counter on the rod between the immersion roll racks, *C* is an arm to fasten on the side of the slasher to overhang the drag roll to fasten *D* with the front counter.

The accompanying figures show stretch tests made on slashers with yardage counters, as just explained.

Slasher No. 7.

	Before Change	Less Cloth on Drag Roll
Back counter	1500 yards	1500 yards
Front counter	1533 yards	1523 yards
Difference	33 yards	23 yards
Per cent stretch	2.22	1.53

Slasher No. 5.

	Before Change	Less Cloth on Drag Roll	Gears Changed
Back counter	1150 yards	1000 yards	1000 yards
Front counter	1187 yards	1027 yards	1012 yards
Difference	37 yards	27 yards	12 yards
Per cent stretch	3.21	2.7	1.2

	Slasher No. 1	Slasher No. 2.
Back counter	1000 yards	1000 yards
Front counter	1012 yards	1013 yards
Difference	12 yards	13 yards
Per cent stretch	1.2	1.3

Cotton-Textiles Under the Recovery Program

(Continued from page 28.)

after being manufactured by pauperized labor in countries whose conceptions of living standards and wages are far different from those tolerated in this country.

Certainly it cannot help the cotton farmer to increase the cost of the cloth made from his cotton to a point that restricts its distribution. The main object of the processing tax—that of helping the farmer, is thus defeated.

Even admitting for the sake of argument that the processing tax is not fundamentally wrong, the least the administrators of the AAA could have done—after textile manufacturers voluntarily assumed shorter hours, increased wages, and had even swallowed Paragraph Seven, was to have put on the processing tax gradually, thus providing a strong merchandising argument, and giving time for the anticipated increase in purchasing power to absorb this higher price of cloth. If the Department of Agriculture had shown similar aggressiveness in putting the compensatory tax on competing articles, as is clearly the duty of the department, another source of actual and increasing trade losses to the American cotton textile industry would have been removed.

That progress has been made by the textile industry under the NRA is fully realized and gladly acknowledged. None of us, in fairly taking stock of our present condition, can feel other than happier and grateful for the bold constructive leadership of President Roosevelt and his associates for what has been accomplished. But we must take the long-time view of the agricultural problem, to setting up more than emergency measures for the permanent upbuilding of our bed-rock industry, agriculture.

Is not the big problem one of distribution? Can there be any real surplus of foodstuffs when thousands in our own country are hungry, and millions in other countries are dying of starvation? Can there be any real surplus of cotton goods so long as the people of the most populous nation of the world are inadequately clad? Can we under such conditions justify hoarding—or less, destroying—the basic commodities required for food and clothing? Will we not attain national prosperity more quickly by adopting, instead of constantly restricting, hoarding and destroying, the policy of putting the products of our great natural resources wherever they are needed; and in doing this, would it not be still better to put them there in manufactured form, thus giving our American industrial workers employment, and adding value of manufacture to the value of raw product?

Definitions Under Cotton Processing Tax Still Somewhat Confusing

On page 46 of the November issue of COTTON, brief comment concerning Treasury Decision 4403, rescinding T.D.4392 and restoring a floor stock tax on cotton in process on August 1, was made. It was stated there that "stock in process" was defined as stock up to but not including yarn, and that the processing tax of 4.2 cents per pound would apply on this cotton.

Subsequently, Deputy Commissioner of Internal Revenue Bliss has ruled that this stock in process, which is defined as "in course of first domestic processing" on August 1, was taxable at 4.2 cents per pound on the quantity of raw cotton used in its production, not on the actual net weight of the stock. Therefore, the mills apparently had to calculate the amount of raw cotton required to produce the quantity of unfinished stock in each stage of processing up to but not including yarn, and pay the tax at the rate of 4.2 cents per pound on the total estimated amount of such raw cotton. But since the maximum conversion factor allowed on stock in secondary processing and on finished goods in stock on August 1 was only 105.2 per cent, no higher conversion factor could be used by the mills in determining the amount of cotton used to produce the stock in process on August 1.

Some Mill Management Notes

These scraps of information are jotted down from "the daily grind", as the writer tells us. He says, however, that they become more interesting to him in the telling. They are observations from his experience in purchasing, costing, and assisting in management, of cotton mills that are among the best in the land.--The Editor.

Give Prices the First Time

I find, in purchasing for a cotton mill, a surprising number of suppliers who write series of letters about their products but never mention prices—leaving it up to the purchaser to inquire. I believe, that in most cases, the buyer does not inquire, but places the order with a firm that has informed him fully. We make exceptions when we haven't competitive prices on file.

* * *

Cost Methods

Standards of cost, compared monthly with actual costs, enable us to catch losses before they go far. For each process, a standard cost per pound is set up. For each service department, as, Works, Power, and Office, standards per week are set. The variances of actual cost, for each period, from standard cost, are analyzed by the cost department. They are then discussed with the management, and the reasons found. Lack of sales demand may be one cause. Holidays, (calendar variance) another. Excessively dark weather raises the lighting cost. Power variance not in accordance with production volume of goods requires close watching. Supplies variance is generally large in percentage but small in amount. This is controlled fairly well, however, by charging most purchases of supplies to general stores, and charging out of general stores to departments as used. Wage cost alone is at least one man's job in a large plant. It is very accurately controllable when the productive labor is on point pay. The Works Department standards and the General Labor (outside) payroll standards require the most explanations.

* * *

"All that Glitters—"

A flashy, green and red letter-head came in one day. It was printed in large letters, and the page was filled with typewritten quotations on some articles that I knew the manager of the mill was interested in. However, his glance at the letter-head told him that the sheet was a circular; and he was about to throw the letter into his waste-basket as I stood by. I wish the artistic printers could see that letter-head. It was "a bird". If customers for printing don't already know, they should be told that their letter-heads must not be scare-heads, but must be as modest and neat as the salesmen who go out to meet the buyers face to face. The buyers know that the best houses send out neither over-dressed men nor over-dressed literature.

* * *

Testing Helps the Overseer

An overseer who has grown up in the mills, and been absolute boss of his department, doesn't at first take kindly to a testing department that is independent of him, and that has as its function the sizing of his laps and roving or yarn, the testing of strength and twist, and the checking of speeds, and of process waste. But a testing department manned with skill and personality can keep all departments friendly while at the same time controlling quality. Eventually it becomes accepted by all parties.

* * *

Write It!

An educated person with normal sight obtains information more accurately through his eyes than through his ears. Hence, it has become common practice in large industries to require more and more of the instructions and information that pass from one employee to another to be written. Fewer errors occur. Fewer instructions are forgotten. Fewer alibis are possible. It is common for older heads to object, and to scorn the written word. The younger heads, especially those with engineering training, realize the importance of tracing errors to their source. The origin of an error can rarely be traced from statements that "John said—" or "Jim didn't tell me." Unless errors can be traced to the sources, and the responsible persons can be proved to be at fault, it is difficult to avoid repetitions of such errors. Hence, we write as much of the data as is practicable, to pass on, from desk to desk, and from bench to bench, and from machine to machine.

* * *

Overcharge Refunds

My company obtains refunds aggregating thousands of dollars, each year, from the railroad companies, for overcharges in rates. It would seem that each station agent would be fully informed, through the published freight rate sheets, of the correct rate on any commodity, to any point. As a matter of fact, each agent can quote a rate, and apply it, but the rate he quotes and applies to a shipment in many cases isn't the lowest rate. Hence the necessity for large shippers to maintain private rate-checking and claim bureaus, or to buy such services from traffic bureaus of trade associations. Such expense will be necessary until the railroad companies better educate their agents in serving the shippers.

* * *

A Help in Making Claims

A claim against a carrier, we have found, is not effective in the form of a letter. In the form of a bill, or invoice, against the railroad company or other carrier, it gets attention. There are elaborate forms in use for giving information in great detail, about a loss or a damage, or an overcharge; but as

invoice, in which the claim is briefly and clearly stated, is in most cases sufficient. Setting up the invoice on a ledger account enables the shipper or other claimant to follow up the charge, as he would any other ledger account, and insist on payment within a reasonable time, or obtain an explanation of why the claim cannot be paid. If the claim is for an overcharge, we name the date, commodity, shipper, consignee, weight, rate charged, and amount. Under that, the correct rate and amount, and subtract, showing the difference. In all cases, the carrier requires the original copy of the bill of lading, attached to the claim, and also the freight bill, signed by the collecting agent. Hence, in making shipments with charges prepaid, or charges allowed to customers, we retain the original copy, and send the consignee the memorandum copy of the bill of lading, with the invoice of the goods, unless the original is required for attachment to a draft.

* * *

Making the Salesman Feel Good

If possible without lying, we make the salesmen who call on us feel good. This is a part of the management's policy. Even though the product offered is not satisfactory, we don't "run it down". We simply buy elsewhere, and assume that what we cannot use is all right, probably, for some other mill.

* * *

Hiring and Firing

The expense of labor-turnover, in our mill, has been lowered considerably by taking away from the overseers some of their former authority in "hiring and firing". Now, all the facts on a worker have to be shown on a card to the management before the worker is definitely put onto the pay-roll. Furthermore, a discharge pay-ticket must be accompanied with a statement from the overseer, of the reasons for discharge. This requires the manager's okeh before the final pay-off is made.

* * *

A Waste Constant

In processing several qualities of cotton, or taking out various percentages of waste, it is convenient and time-saving to have at hand a table of multipliers, to keep informed on cotton requirements. Each multiplier is obtained by taking the total waste percentage from 1 pound. For instance, 1—.235=.765 lb. of product. Then, divide the product weight into 1. As, 1÷.765=1.307, which is the multiplier to use to determine the weight of raw cotton required for the weight of goods to be produced.

* * *

Saving Coall

The stack from our heating boilers is a very high one, for the size of the plant, so the natural draft is very strong. The former management was buying and burning a highly volatile coal. The consumption was "awful". Changing to a slower burning coal, and using the lowest grade slack from a mine in a less rich vein in the Kentucky field, has slowed down the fires and saved considerable money. Our next move will be to buy automatic stokers, to obtain a more even and economical fire bed, and also to eliminate the smoke that hand firing promotes.

N. C. Cotton Manufacturers Meet; A. M. Fairley is Elected as President

THE 27th annual convention of the North Carolina Cotton Manufacturers Association was held at Pinehurst, N. C., on November 16th and 17th. Charles A. Cannon, president of Cannon Mills, Kannapolis, N. C., presided as president of the association. There were two sessions—a banquet on Thursday evening at which Former Senator Thomas J. Heflin of Alabama was the speaker; and a morning session on Friday, when President Cannon presented his report, and Ralph E. Loper, of Ralph E. Loper and Co., Fall River, Mass., and Greenville, S. C., discussed "Textile Costs under the NRA." Mr. Loper's address followed largely the discussion presented at the annual meeting of The Cotton-Textile Institute, as reported on page 26 of the November issue of COTTON.

In his address as president, Mr. Cannon discussed briefly the operation of the industry under Code No. 1 of the NRA, and covered also the problems to the industry as a result of the cotton processing tax as applied by the AAA. He declared that statements of the Department of Agriculture have been misleading and that "consumer resistance to the increased costs, caused by higher wages, shorter hours, higher cotton and processing tax, is being built up by the Department of Agriculture. If the Recovery Plan is to work successfully, we need the co-operation of the Department of Agriculture. If the consumption of cotton is to be maintained or increased, we must have a compensating tax on competing fibers." Mr. Cannon discussed briefly the matters of state legislation and taxation, and reported a substantial increase in the membership of the association during the past year. He presented a detailed discussion of the association's cotton committee, in connection with a similar committee of the American Cotton Manufacturers Association, in the work of cotton standards. He also outlined the work of the traffic department of the association.

New Officers Elected

At an executive business session following the morning meeting, A. M. Fairley, general manager of the Waverly Mills, Laurinburg, N. C., was elected president of the association for the coming year. Captain Fairley is also chairman of the carded yarn group of The Cotton-Textile Institute. J. A. Long, of Roxboro, N. C., is the association's new first vice-president, and Harvey Moore, of Charlotte, was elected second vice-president. Ralph T. LeGrand, of the Shelby (N. C.) Cotton Mills; W. H. Ruffin, secretary, Erwin Cotton Mills Co., Durham, N. C.; Joe M. Gamewell, Erlanger Cotton Mills, Lexington, N. C.; A. H. Bahnson, Arista Mills, Winston-Salem, N. C.; A. R. McEachern, St. Paul's, N. C.; and F. B. Bunch, of Statesville (N. C.) Cotton Mills, were elected to the board of directors; and W. L. Balthis, of Lowell, N. C., was named to succeed J. A. Long, who was elected vice-president, on the board of directors. Hunter Marshall, Jr., secretary; Carl R. Cunningham, traffic manager, and R. H. Boykin, head of the fuel department, were re-elected.

The purpose of this department is to pick up ideas from this mill and that, and deposit them here for you and others in pithy paragraphs. If you haven't already told us whether you like it or not, please do so now. The Scavenger Roll will welcome also suggested topics and paragraphs from readers. Let us hear from you . . . . . .

Spinning Spindles for Twisting?

Last month we made the statement that the mills are the laboratories for the machinery builders. We wish to illustrate with one of the numerous cases we find where practical mill men depart from the rut of tradition, experiment on their own account, oft-times fail to achieve the desired result but sometimes point out a new pathway.

The case in point is that of a mill in which the lug-type twister spindles are being replaced with spinning spindles. Yarns ranging from 14s/2 to 20s/2 are being twisted, which is by no means fine work nor a light job for the spindle. The ring is 2-inch diameter, which isn't large for the work so that the package is only average and not a particularly heavy load. By changing to the spinning spindle the production on the twisters was increased approximately 20 per cent. As we understand it, in twisting this and finer work the speed limit of the twister is reached when the bobbins begin to bounce on the lug-type spindle. The highest spindle speed we have encountered on this lug-type spindle is 8,300 r.p.m., while we have seen spinning spindles running 11,000 r.p.m. steadily. Especially since the improvement and adoption of the clutch type spinning spindle would it seem practical to use the higher speed spindle for medium and fine count twisting. The objection might be raised that the twister usually has a larger ring than the spinning frame, that the work is plied there which means a traveler heavier than the spinning traveler, that the limit of speed is the traveler and ring performance. The answer to this is that twisting fine work is not as severe a condition from the ring and traveler standpoint as is the spinning of much coarser work. To show the limits of the lug-type spindle we illustrate: A mill installed cotton twisters for the twisting of rayon crepe. The ring size is 1¾-inch and the spindle speed approximately 8,000 r.p.m. The same type ring with which part of the frames are equipped in 2¾-inch diameter is being operated successfully in numerous instances at 10,000 r.p.m. spindle speed on silk throwing machines. Therefore, respectfully we ask: Is not the spinning-type spindle more practical than the lug-type spindle for medium and fine cotton twisting?

Checking Spindle Speeds

A tirecord mill has in constant use a stroborama in checking spindle speeds. Uniform twist, elasticity, and break in the cord are so essential that uniform spindle speed on the twisters is of great importance. When the speed-testing machine was first used tape-driven twister spindles were found to vary in speed as much as 400 revolutions where 4,800 r.p.m. was standard speed. Lagging spindles were checked and the trouble remedied. An interesting feature of this was that it had been believed old tapes were the chief cause of spindles not being up to speed, and they had been cut off pretty freely and replaced with new tapes. However, it was found it took about two weeks for the new tape to get the spindles up to full speed. It seems the stiffness and smoothness of the new tape did not allow it to give efficient results at the start, and at last report this mill was having its tapes treated with a dressing designed to give plenty of traction from the beginning.

Weaving Double-Width

Speaking of resourcefulness, a mill man of extensive experience showed us how to weave 120-inch goods on 60-inch looms. Given herewith is the drawing-in draft (Fig. 4), pegging plan (Fig. 3), harness motion (Fig. 2) and how the cloth looks in cross-section (Fig. 1), F being the "face" or top portion and B the back or lower portion.

Since two sections of cloth are being woven simultaneously, it is necessary to use twice the number of ends in the sley and picks that appear in the cloth.

The face or top portion is drawn in the first and third harness; the back or bottom in the second and fourth harness. Two picks are woven for the face; then two picks are woven for the back. With the drawing-in draft and chain draft given, the cloth will be stitched at one selvage and open at the other; when taken from the loom it will open out twice the reed width.

To weave pillow tubing, with both selvages closed, it is only necessary to exchange the position of the 2nd and 3rd bars in the pegging plan.

Oil for Comb Boxes

How heavy an oil should be used in card comb boxes? Doubtless many a comb box has been ruined by using oil of too high viscosity. The eccentric motion parts in the comb box are made to fit very closely, so closely that an oil of high viscosity cannot work into the bearing surfaces and furnish a protecting film. Particularly in a new comb box should as light an oil be used as will keep the box reasonably cool and noiseless. Of course after the eccentric parts have worn a heavier oil is required, but that day can be postponed by using the proper oil while the box is new.

Learning Human Nature

So much has been written about the textile school graduate's place in the mill that the subject is hesitatingly mentioned here. Practically everything we have read on this subject has dealt with the technical phase of the graduate's ability to enter the mill and make a place for himself. No matter how nearly perfect the technical training, how thorough the grounding in fundamentals of textile manufacture, how able a man may be to produce satisfactory work from any or all of the machines in the mill, yet there is one thing he cannot learn except from those men who have gone before him and by his own experience. That is the human side of the management problem. It is only with the frost of years and experience one can learn which men can be inspired and which must be driven, how to build up a loyal, smooth-working organization that can and will carry on in the face of difficulties.

Seen this One?

Sign on the back of a particularly dilapidated Ford down in Georgia: Laugh if you want to but it's paid for.

FIG. 1

	HARNESS	
	UP	DOWN
1ST PICK	#1	2-3-4
2ND "	3	1-2-4
3RD "	1-2-3	4
4TH "	1-3-4	2

FIG. 2

PEGGING-PLAN CHAIN DRAFT				
X		X	X	B
X	X	X		B
		X		F
X				F

FIG. 3

DRAWING-IN DRAFT				
	F	B	F	B
#4				X
#3			X	
#2		X		
#1	X			

FIG. 4

CURRENT TEXTILE TOPICS. . . .

Talk of the Month

CONDITIONS in the middle of November really gave the first definite indication that affairs for the cotton industry were taking the turn for the better that was dependent upon adjustments in the broad economic advance. The textile branch has had a series of paradoxes, in relation to the recovery program. Because of its long period of depression, strangely enough it was first ready for coding. Adversity had been a good teacher. But its readiness was the basis of further adversity of a sort: that is, the rest of the recovery program was not so simple of accomplishment, as witness the many weeks and months which it has taken for other industries to prepare acceptable codes.

The General Situation in Textile Markets

This delay in the broad adjustment, together with other complications such as the boom in the summer—with the inevitable and traditional reaction—caused some disappointment in the fall business of cotton manufacturers. Even such an outcome was not without its compensations, when looking ahead to a more normal general condition of things, for it demonstrated the need of adherence to the modified schedules and brought quick affirmation of the Administration's intention to reject proposals for exceptions to the code. On the other hand, the code allowed the industry to carry on at a fair rate without accumulating burdensome stocks.

If this second condition is read aright, it holds forth great promise for the future. Therein is the suggestion that the time is approaching when that long-desired condition of more even production and steadier work will be attained. Such a condition would be conducive to stability of prices and accordingly steady profits for stockholders. But there remains yet the scientific finding of proper hours of production; for it must be remembered that the Nira schedule is an experimental proposition. Thus already manufacturers have been discussing the possibility that the present hours are too long. This situation must be given careful consideration and some factors have stated that the industry should be prepared to move before forced to do so. The threat of a drive for a 30-hour schedule is one thing to forestall. That would be another experiment, and an extreme one, too.

Meantime, as the cotton industry was the most ready for the step in evolution which the recovery program really is (and not purely an experiment divinely inspired in a moment) so textile manufacturers were receptive to the Administration plan. Hence it was unfortunate that the move for adjustment to a new era was complicated by charges from the Administration of profiteering by the cotton industry. This could be not other than a force for creating antagonism of the public and as the charges were brought at a time when the Administration was making an effort to promote consumer buying, there was a distinct inconsistency in the two attitudes.

From various sources have come convincing arguments to the effect that the Administration officials were warning consumers against undue advance in prices for goods without sound basis of calculation. George W. Alcock, in the *Iron Age*, said that "Uncle Sam figures his cost on a basis that no accountant would tolerate in a private enterprise". As to the charge that the record summer activity was realized in an effort to beat the processing tax, this has been flatly contradicted by evidence of orders, higher wages and condition of mill stocks. And the important fact seems to have been overlooked that this early buying allowed distributors of fall merchandise to make lower prices for consumer goods than otherwise would have been possible.

Because the NRA program could not move as a whole as rapidly as did the cotton industry, the consumer purchasing power did not rise to the expected point in the fall. The cotton mills, along with some other industrial branches, acceded to the President's plea of the spring by beginning to increase wages in May. Buyers of goods placed enormous orders beginning in May, contributing thereby to wider employment of workers at higher pay and record consumption of raw cotton. And they contributed also to that prime essential of providing goods for consumer needs at prices which they were able to pay, during the late summer and into the fall.

Since the NRA program, as has been seen, could not move rapidly, it would appear that the developments in the cotton industry have been decidedly constructive. Mill production has been under a check this fall, partly as a natural sequence to the summer peak of production and further through waiting for increased employment and signs of the inflation which long ago began to be anticipated. At the same time the industry has maintained moderately good activity and at the time of writing was buoyed up by concrete evidence that the great agricultural section of the country had received payments from the Government which added tremendously to the direct receipts for their costs, making their purchasing power the best for many a moon.

This and the gold movement lent sustained confidence in belief that things were on the eve of another healthy movement. Added thereto was the national construction program and underlying confidence in the NRA program, despite the difficulties of getting it started on the right road. Whatever the justification for complaints may be over various phases of the program, it is basically sound in the move for regulated control of industry, for spread of employment, for eradication of cut-throat competition and for reasonable limitation of crops. Without co-operation in these things, the people will fail.

MIXED conditions have prevailed in New England through the fall months, but mill activity has been maintained on a relatively good plane and the industry has been looking forward toward a better year in 1934. The reaction from a summer of extraordinary operations has been felt, yet many things of an encouraging nature have been noted. As stated in one quarter, there is no one in New England who does not believe that the textile codes have been helpful. To permit the various factors in a given industry to get together and agree upon the elimination of unsound practices is certainly useful. The cotton industry, along with others, is doing what under the NRA is demanded and what previously leading textile manufacturers desired to do.

New England Mill Situation

While the cotton mills have had only moderate activity since the summer boom, save for a spurt in September, there was much hope in the middle of November that the tide had turned toward renewed volume of business. Meantime, many of the New England mills had orders on hand to keep them active through the end of the current year. The statistics of mill operations and of cotton consumption available up to mid-November were conclusive of improved condition for the section under the NRA, while figures on payrolls in leading centers of manufacture were significant of great benefit to the employees under the code.

Further evidence of demand for idle plants has been gained the past month. As a by-product of the restriction upon expansion of the cotton industry for the present, it is stated that Fall River and adjacent towns of Massachusetts are expected to benefit by a new interest in established but inactive factories. A notable example is cited in the Stafford Mills, on which Federal and city liens are held. Also the Crystal Springs Bleaching and Dyeing Company plant of Assonet is said to have been under the eye of several companies. At last word, the trustee in bankruptcy was proceeding with plans to offer the plant by auction.

Outstanding among the mill developments of the past few weeks was the opening of the No. 2 mill of the Iron Works group owned by the American Printing Company of Fall River, for the manufacture of gray cotton goods. Some interests were wondering how far this might mean the return of important printcloth business to New England, as at the time of the summer boom it had been intimated that the American Printing Company would reopen this plant only when it could secure unfinished goods from this factory on favorable competitive terms. A fly in the ointment on the re-opening was immediate labor difficulties when weavers were directed by their union officials to stay away from the plant because of proposed operation of 60 automatic looms per man. Nathan Durfee, vice-president and plant executive, was quoted as saying that only on such a basis could the plant compete. He said he was really stretching a point, to provide work for 750 employees and thereby aid the community.

Both outside this district and within the mill reports have shown a note of healthy progress in reports of earnings and dividends. Such reports give confidence toward the future investment in mill shares and in Fall River particularly an active show of interest in the industry appears to be developing. Dividends have been declared more frequently, though of course the movement has been limited to date and is only a beginning. The New Bedford situation has not been so good as that in Fall River, because the finer cotton cloths have not shown profits corresponding to those in the coarse goods and printcloths.

Master Mechanic Division Plans Tests on Power Saving

Clemson College is host to successful meeting of mechanical division of S. T. A. . . . . .

THE master mechanics division of the Southern Textile Association met at Clemson College on November 2. The meeting was called to order by the chairman of the section, E. E. Edmiston of Mooresville, N. C. The address of welcome was given by Dr. E. W. Sikes, president of Clemson College, and the response was made by David Clark, editor of the Textile Bulletin.

The main topic discussed was power saving. E. H. Gilliam of Charlotte, N. C., presented a paper and a few slides showing the importance of graphic instruments in recording the power consumption of different machines. He had an actual demonstration on some of the machines in the Clemson textile school. Some of the members present had had experience with different recording instruments showing the variation in power consumption on spinning frames in the same plant. This variation in some cases was as much as 25 per cent. It was generally agreed that considerable power could be saved by re-leveling and cleaning machines as well as realigning the lines of shafting in the plant.

The subject of the kinds of fuel for a particular plant was discussed at length. Cleanliness in the boiler room and treatment of boiler water was taken up. Prof. Johnson and Prof. Vaughan of North Carolina State College and Prof. S. B. Earle, dean of the engineering school of Clemson College, took part in the discussions explaining how many of these tests could be made to advantage without a great cost to the mills. The subject of the advisability of the mechanics' conducting tests at the mills in cooperation with the textile schools of the various states was discussed. H. H. Iler, president of the Southern Textile Association and master mechanic, Union Bleachery, discussed this plan at length. He was the first to suggest a problem. He and H. H. Willis, dean of the Clemson textile school, made immediate plans for at least one test to be put under way within the next few weeks.

Approximately fifty mechanics and visitors attended the meeting. Through the courtesy of Col. R. John West, commandant, and Dr. E. W. Sikes, president, a special parade was put on by the cadet corps for the delegates. After the parade, the mechanics took lunch with the cadets.

COMMENT ON THE COTTON MARKET

New Orleans, November 16th, 1933.

THE cotton market slowly but steadily developed strength during the past month, for while there occurred a temporary sharp decline at opening of the period, due to Germany withdrawing from the League of Nations, there followed a quick recovery in the market, and thereafter there was almost a steady rise in values. Constructive developments were buying of contracts by the government, the proposal to extend the ten cents loan on cotton to the 2,400,000 bales of option cotton, the steady rise in the value of domestic new mined gold, the important advance in sterling exchange, the repeal of the 18th Amendment, and prospects of recognizing Russia.

The progress made in raising the value of gold and sterling exchange, and lowering the value of the dollar, is reflected to some extent in the higher prices for commodities, especially for cotton, which is about $5.00 per bale up compared with one month ago. This is a remarkable accomplishment in the face of prospects of a larger crop—13,100,000 bales of 500 lbs. gross weight, against 12,885,000 indicated one month ago, and last year's production of 13,002,000.

SEASON'S INDICATED WORLD'S SUPPLY OF AMERICAN LINT COTTON, AS OF NOVEMBER 1

Bales—	This season	Last season
World's carry-over, Aug. 1st (Hester)	11,339,000	12,911,000
Indicated crop, if ginnings	12,800,000	12,710,000
Total, about	24,139,000	25,621,000

As to foreign cotton crops, recent returns to the government indicate a probable increase this year of about 1,375,000 bales, exclusive of India. In India the acreage planted to cotton as of October 1st, was 6.7 per cent larger than to corresponding date last year. The official crop estimate for India's cotton crop is not expected until December.

The New York Cotton Exchange service is credited with having estimated the world's supply of all kinds of cotton as follows:

Bales—	This season	Last season
World's carry-over, Aug. 1st	16,247,000	17,412,000
World's indicated crop	24,755,000	23,637,000
Total	41,002,000	41,049,000
World's consumption, Aug. and Sept.	4,274,000	3,778,000
Available, Sept. 30th, about	36,728,000	37,271,000

BRITISH BOARD OF TRADE REPORT FOR OCTOBER

	This year	Last year
Exports of yarn, pounds	12,000,000	11,000,000
Exports of cloth, yards	156,000,000	138,000,000

CENSUS REPORT

United States—Bales—	This season	Last season
Consumption of lint, October	503,873	501,893
Consumption of lint, 3 months	1,591,929	1,399,132
Mill stocks, October 31st	1,361,190	1,267,181
Stocks in public storage and warehouses, October 31st	9,474,342	9,824,523
Stocks in mills, public storage and warehouses, October 31st	10,835,532	11,091,704
Active spindles during October	25,875,142	24,583,408

Consumption in the United States is holding up very well thus far this season, for while October returns show a marked falling off compared with the activity last summer in preparation for the NRA, they were a shade larger than for September of this year and October of last year. It is feared, however, that while home consumption will likely continue satisfactory for sometime to come, foreign consumption of American may decrease because of the relatively lower price of the foreign product and the outlook for larger foreign crops, especially in China, Brazil and probably India. The cheapness of the dollar, abroad, however, as reflected in the very high rate for sterling exchange, may work in the interest of large consumption of American abroad. Meanwhile there is a strong holding movement in the South, and if the ten cents loan plan is extended to the option cotton, a very large part of the present supply in the South may be held off the market unless prices seek a higher level.

The export movement continues of fair proportions, compared with last season, for week ended November 10th, 250,000 bales versus 224,000, since August 1st 2,808,000 against 2,522,000. Spinners' takings are encouraging also, from August 1st to November 10th 4,456,000 bales against 4,014,000 for corresponding period last year, but stocks are very large in the South, yet hard to buy owing to the holding movement.

Advices from the interior are to the effect that a very large quantity of cotton has been turned in to the government at 10 cents and this is still going on at a rapid rate, which accounts for the light offerings and firm basis. For that reason and the approaching holidays, there is likely to be a revival of business throughout the country. Late trade advices from England are much more cheerful.

While stocks in the interior are large, due to much old crop cotton on hand and the heavy ginnings to November 1st of this year's production, the available seems to be limited except at a price. There may be a further tightening up on the part of the interior, as ginnings, which were heavy in early season, are likely to be light during the remainder of the season.

WHAT THE SOUTHERN MILLS ARE DOING..

GOODYEAR Tire & Rubber Company have purchased the plant of the Connecticut Mills Co., Decatur, Ala., at a cost of $251,000. The plant has about 31,000 spindles which were at one time operated on yarns for tire cord. It is reported that Goodyear will spend approximately $100,000 in putting the plant in operating condition, and will then start operations. Charles W. Young, formerly at the Goodyear plant in Connecticut, is to be in charge.

C. L. Upchurch, of Athens, Ga., has formed the Mary Delia Mfg. Co. to operate the mill he owns in Thomson, Ga., formerly known as the Lullwater Mfg. Co. W. L. Phillips is the manager.

The Baldwin plant of the Aragon-Baldwin Cotton Mills, at Chester, S. C., has been acquired by the Springs Cotton Mills, with headquarters at Lancaster, S. C. It is reported that the equipment of the plant will be materially increased. The work of re-conditioning the No. 2 mill of Springs Cotton Mills at Chester, formerly known as Springstein Mills, is rapidly nearing completion.

Anniston Mfg. Co., Anniston, Ala., have installed 29 new Model X Draper looms and six new spinning frames.

Arnall Mfg. Co., is being organized by Alton W. Arnall, F. W. Arnall, and Ellis H. Peniston for operating the old Pitts Cotton Mills, Elberton, Ga., recently acquired by these associates.

At the Monroe Cotton Mills, Monroe, Ga. the entire spinning department is being moved to the second floor, and the slashers and winders to the first floor.

Lexington Silk Mills, Lexington, N. C., are to erect an additional building for the installation of preparatory machinery, which will be transferred from the present building, and the space there utilized for additional new looms.

Appleton Mills, Anderson, S. C., are being electrified, with the Webb Electric Co. as contractors, and J. E. Sirrine & Company engineers. Watts Mill, Laurens, S. C., are installing individual motors on looms under the same supervision.

An addition is being erected by the Clinchfield Mfg. Co., Marion, N. C. J. E. Sirrine & Co. are the engineers.

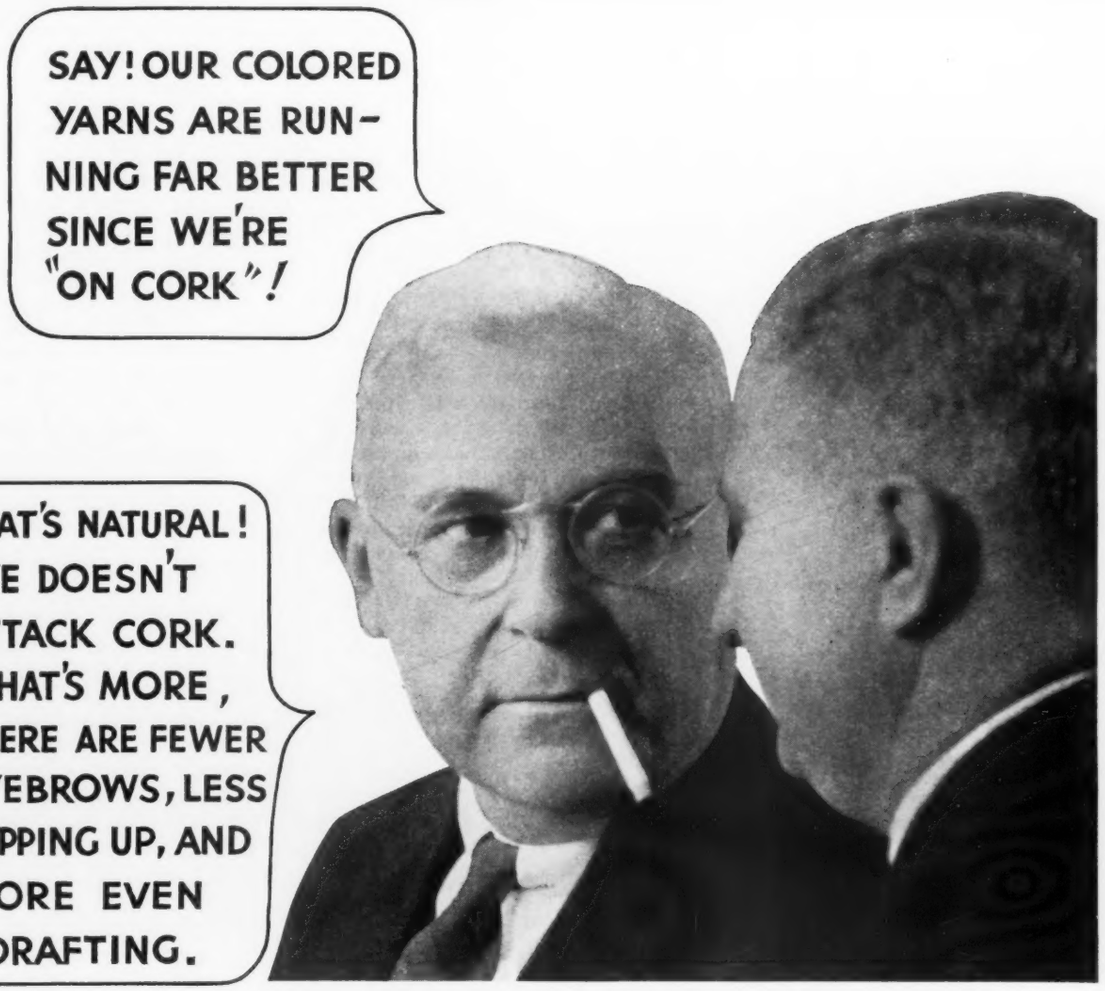
Travora Mfg. Co., Graham, N. C., recently made an installation of pick counters purchased from WAK, Inc., Charlotte, N. C.

Hatch Full-Fashioned Hosiery Mills, Belmont, N. C., are installing four additional full-fashioned knitting machines.

Se-Ling Hosiery Mills is the new company formed to operate the former Walter Fred Hosiery Mills, Nashville, Tenn. J. D. Goodpasture is in charge, and T. Walter Fred is sales manager.

Atlas Silk Mills, Martinsville, Va., will build a one-story, brick addition.

Angle Silk Mills, Rocky Mount, N. C., have purchased a rayon slasher from Cocker Machine & Foundry Co., Gastonia, N. C.


SAY! OUR COLORED YARNS ARE RUNNING FAR BETTER SINCE WE'RE "ON CORK"!
THAT'S NATURAL! DYE DOESN'T ATTACK CORK. WHAT'S MORE, THERE ARE FEWER EYEBROWS, LESS LAPPING UP, AND MORE EVEN DRAFTING.

YOU LICK at least *three* spinning problems when you change to cork cots for colored yarns.

First, cork will last considerably longer because the chemicals in the dyes can't harm it. Second, cork practically eliminates eyebrows—always a problem with colored yarns. And third, cork drafts out most of the slubs and bunches that other coverings let go through.

But it's not only in spinning colored yarns that Armstrong's Seamless Cork Cots give better service. For *any* type of spinning, these cots cut roll covering costs by as much as 60%—*proved* savings in mill after mill. And the quality of the yarn is equal or better.

Cork is less affected by humidity and hard ends. Because it greatly reduces lap-ups and clearer waste, practically eliminates eyebrows, it helps to save much productive time. Mill men have found—in numerous tests—that Armstrong's Cork Cots are superior to old-style roll coverings in every important particular.

Why not prove the truth of these statements right in your own mill? You can easily install a few test frames with Armstrong's Seamless Cork Cots—then watch the results. If you wish, we'll gladly send you reports of practical and impartial mill tests for your guidance. Just write to Armstrong Cork & Insulation Company, 923 Arch Street, Lancaster, Pennsylvania.

Armstrong's SEAMLESS CORK COTS

For Spinning and Card Room Rolls

NEW TEXTILE EQUIPMENT AND PUBLICATIONS . . .

Cotton Bale Grab

Cleveland Tramrail Division, The Cleveland Crane & Engineering Co., Wickliffe, Ohio, have announced a new grab for handling cotton or other material in baled form which can be pierced without damage. The grab permits the piling of material without voids, it is pointed out, thereby decreasing storage space. Only the operator in charge of the hoisting unit is required to pick up the load, store or reclaim it; no assistance from groundmen is required. The grab consists of suitable arranged screws, especially designed for the material to be handled, which are rotated by a motor and gear mechanism and penetrate the material or container a sufficient depth to lift the load. On loosely baled materials, multiple units of the grab may be arranged on a spreader or load bar to lift the bale at several points.

Cotton bale grab

The device may be used to handle containers like wood crates, barrels, and boxes, where piercing of the top of the container is permissible, it is pointed out.

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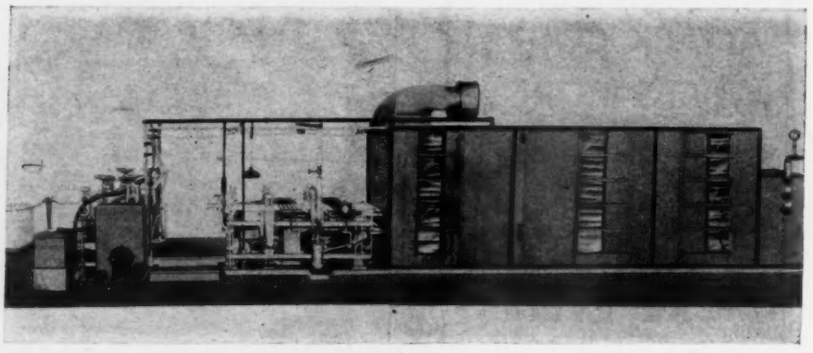
New Dupont Product

E. I. du Pont de Nemours & Co., Dyestuffs Division, Wilmington, Del., have announced Leucosol Yellow K Paste (Patented), a vat color of the anthraquinone series prepared particularly for the printing trade. It is a non-drying paste; and, as it is being manufactured especially for printing purposes, it is claimed to be grit-free, non-foaming, and does not yield specky prints, settle out, or form crusts in the barrel. It is said to be fast to light, soaping and commercial laundering, and is applicable to cotton, silk or rayon to be used for dress goods, draperies and similar materials.

:: :: ::

Tube-Tex Machine

H. W. Butterworth & Sons Co., Philadelphia, Pa., are making a machine known as the Tube-Tex, which, it is pointed out, extracts, processes, dries, finishes, conditions and measures tubular knit goods all in one continuous operation. The machine is patented in the United States and foreign countries; additional patents are pending. All patents are controlled by the Tubular Textile Machinery Corp., New York City.



The new Tube-Tex machine

Only two operators are required on the machine, it is explained—a third being required for sorting and sewing. It is claimed that from 2,800 to 3,000 pounds of fabric can be processed and finished in eight hours.

In the processing operation, the fabric preparatory to passing through the machine, may be wet or dry in rope or flat form. It passes through the machine in continuous endless length at 25 to 35 yards per minute. The fabric may be taken directly from a dye beck and passes through pot eye guides. Afterward, it is opened up fully by a driven spreader, which is really the heart of the machine, and consists of two upper and two lower horizontal rollers; also two smaller vertical rollers on each side. One each of the upper and lower rollers is driven; the two side rollers are driven by spur gears. By regulating the speed of these rolls, fabric can be stretched or allowed to run full. The fabric, after it is stretched to its full dimension by the driven spreader, is passed under the immersion roll, and then through squeeze rolls. If finish is required, the liquid for de-lustering, sizing, stiffening, etc., may be poured over the goods at the top of the squeeze rolls, squeezed, and then allowed to run down to the immersion pans, from which it is recirculated.

From this machine the goods pass into the drier, which is made of asbestos-lined sheet metal. The house is 20 feet long, 36 inches wide, and has five horizontal air passages. The bottom passage holds four layers of fabric, and the other passages three layers each. The fabric is carried through the drier, free from tension, except where tension is applied by spreader units. Tension is applied to the fabric as it emerges from the drier, and before it passes to the final finishing machine. The heat from the drier is exhausted from the top, and drawn in at the bottom. From the drier the goods enter the finishing machine, where the fabric is steamed from top and bottom, and opened up by the driven spreader. It is steamed again, and passes through the finishing rolls. Before being wound up it is cooled by a process which insures the proper amount of moisture being left in the fabric, it is explained.

The driving of the entire machine is done by three direct current motors. An ac-dc motor generator set is part of the equipment of each machine. A separate hand control governs the speed of all three motors at one time. There is a feeder control between the various units of the machine. Operation is by push button control at each end. The machine is also equipped with signal lights, and has a semi-automatic arrangement which slows the machine when cutting and doffing is being done.

The separate units of the machine can be supplied. A single unit at the beginning of the machine can be used for processing after the goods have been centrifuged. A second unit, similar to the first, except that it has an extra set of squeeze rolls, permits the goods to be taken directly from the dye beck kettle.

The manufacturers claim a saving in horsepower, floor space, and steam, and in labor costs. They point out

A Means of Getting The Most Value From A Dollar's Worth Of Starch

Today, more than ever before, textile executives are investigating the latest improvements that are constantly being made in textile processes and equipment, as every improvement that can be made in their operating efficiency and quality of product, and any saving that can be made in manufacturing costs, means more profits.

The above booklet can be read in a few moments and with profit by every textile manufacturer interested in improving quality of his product and efficiency in warp dressing and finishing processes. It tells how to get the most value from a dollar's worth of starch, reduce operating costs in several ways, save time and trouble and increase the quality and appearance of textile products.

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DRAKE CORPORATION, NORFOLK, VA.

• ARCY •

that any reasonable desired regain may be obtained; that losses at the ends of the rolls are not more than three inches; that the yield is controlled and moire eliminated; and that a uniformity of face and width is secured. The machine is particularly adaptable to the finishing of silk, rayon, cotton, wool, worsteds, or mixtures.

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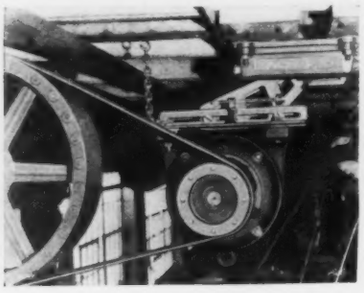
Rockwood Ceiling Drive and Vertical Drive Bases

The Rockwood Mfg. Co., Indianapolis, Ind., have announced the application of the Rockwood motor base to a ceiling drive base for line shaft, group drive, etc. In this drive, it is pointed out, once the proper belt tension has been established, the weight of the motor, lightly cradled in the belt, automatically keeps the belt at the proper tension throughout its life.

In the new Rockwood ceiling drive base, the arrangement is similar to the well known standard floor mounting



Rockwood ceiling drive

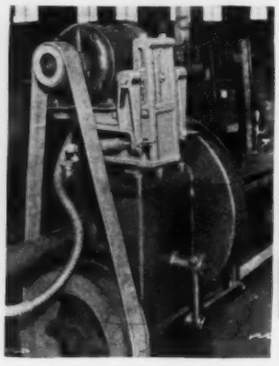
base of this drive, except that, as shown in the accompanying illustration it has special hanger arms which suspend the motor horizontally and give greater clearance from the ceiling. The adjustable steel angles which move horizontally on the hanger arms are supported by a ledge cast on the bottom of the hanger arms, which carries the weight of the motor and takes the weight from the slotted-head screws in the arm slot. This ledge, it is explained, in addition to adding strength and safety to the motor support, permits the screws to be loosened and the adjustable angles to be moved along the ledge by turning the secondary arm-screws while the drive is running, so that one man may readily make any desired change in belt tension.

In this drive, auxiliary screws on the hanger castings serve to move the motor relative to the pivot shaft without having to support the motor weight independently while the change is being made. One man, working overhead from a ladder, makes the change; he loosens the screws in the arm slots, then moves the motor—forward if more tension is desired, backward if less tension is desired—by means of the adjusting screws on the arms. He then retightens the screws in the arm slots and turns the nuts on the pivot shaft screws until the arms are brought back to horizontal.

With this ceiling base, a safety chain is supplied to prevent the motor from falling below its horizontal position in the event of failure of belt or fastener.

It is pointed out that with this overhead motor mounting, there is no need to take down shaft hangers; belt may be made endless on the job; and there is quick adjustment for belt tension and pulley alignment. Because the drive always operates at the minimum belt tension required by the driven load, the manufacturers explain, belt life is prolonged and wear on bearings is reduced.

The company has also developed the Rockwood vertical drive base, in which, as in all Rockwood drives, the motor is mounted on two adjustable, horizontal arms, suspended from a pivot shaft.



Rockwood vertical drive

But in this adaptation, the weight of the motor is counterbalanced by two coiled springs, connected by rods to the bracket arms. These springs are adjustable and provide the required belt tension. This drive, it is pointed out, eliminates the trouble of slip and loss of pulley speed coming from belt stretch on vertical drives, by providing for and maintaining correct belt tension on both pulleys. When the motor is located above the driven pulley, the springs are adjusted to support the entire motor weight plus the necessary belt tension. When the motor is located below the driven pulley, the springs are adjusted to support only that portion of the motor's weight not needed to provide belt tension. To simplify location of motor relative to belt length at time of installation and to provide adjustment for elongation of belt in service, the pivot shaft is movable vertically, by means of adjusting screws.

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Error in Speed of Warper

On page 46 of the October issue of COTTON, in a description of the high speed horizontal silk system warper as manufactured by Sipp-Eastwood Corp., Paterson, N. J., appeared the statement that this "high speed warper for warping rayon under the silk system attains a speed of 20 yards per minute." This was obviously in error, and the speed should have been given as "320 yards per minute." Regretting this typographical error, we are pleased to publish this correction.—Editor.

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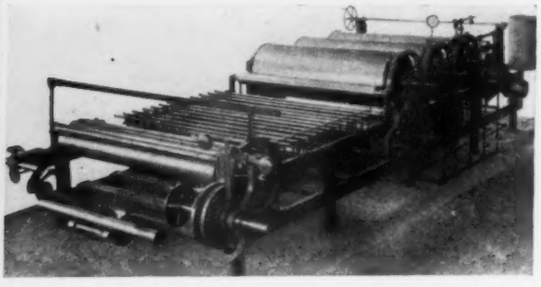
Rayon Warp Sizer

In the Johnson rayon warp sizer, manufactured by Charles B. Johnson, Paterson, N. J., there are four models—the three and five cylinder machines for warps made by the silk system, and the same types of machine for warps made on the cotton section beam system. The three- and five-cylinder models are the same, except that the five-cylinder machine has practically twice as much drying surface in contact with the yarn, which, it is pointed out, is especially suitable on acetates.

Tension on the loom beam is regulat-



Rayon warp sizer

ed by the operator by a friction belt drive. A compensating device regulates the speed of the quetsch rolls to conform with that of the drying cylinders, for giving complete control over stretch. Heat control is applied to each individual cylinder, permitting the varying of temperature from one cylinder to another. Special dial type thermometers are attached to each drying cylinder. A Reeves variable speed drive with a ratio of 4 to 1 and intermediate speeds, is used. The machine is adaptable for warp ranging from ribbon to drapery and bedspread warps, any denier or type of yarn; and for the sizing of spun silk, real silk and fine cottons, it is pointed out.

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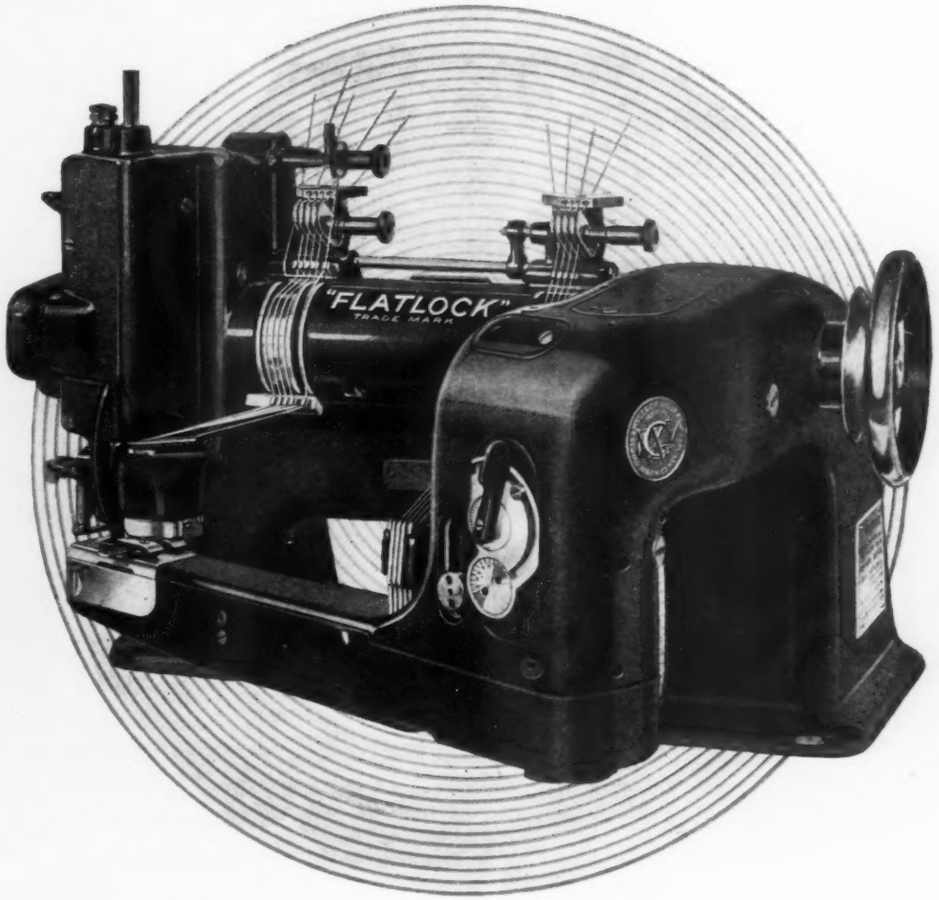
New National Color

National Aniline & Chemical Co., 40 Rector St., New York City, have announced National Alizarol Cyanine RC, an addition to the line of mordant dyes, for giving bright reddish blues of excellent fastness to sea water, perspiration and rubbing, and of good fastness to washing, fulling, potting, crossdyeing and alkali spotting. The company states that this possesses fair

THE WORLD'S FINEST SEWING MACHINES



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fastness to light, and offer it for worsted goods; cotton, rayon and acetate silk effects are unstained.

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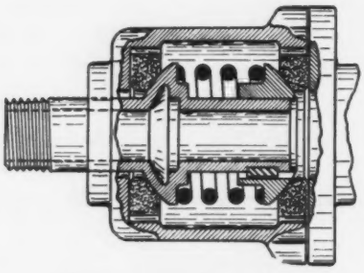
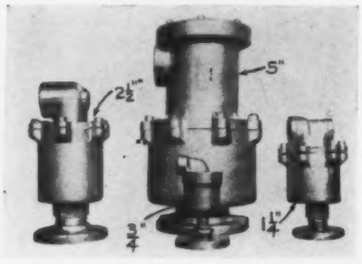
Rotary Pressure Joint

A rotary pressure joint for steam, gases, water, etc., using special carbon graphite seal rings that do not require lubrication, has been announced by The Johnson Corp., Three Rivers, Mich. The pressure equalizing within the joint, it is explained, seals the highly



Rotary pressure joint

polished concave surface of the carbon graphite seal rings against the chromium cast iron spherical flanges; the higher the pressure the tighter the seal. The light spring merely holds the parts in place. The pressure seal



feature, it is pointed out, eliminates the external adjusting spring ordinarily used to compensate for pressure changes. The lateral movement possible in addition to the angular movement allows for flexibility to compensate for piping or bearing irregularities. The joints are operating on steam pressures exceeding 200 pounds and at speeds of 200 r.p.m., it is stated, and also on water, refrigerated brine, etc. The sizes range from ¾-inch to 3-inch.

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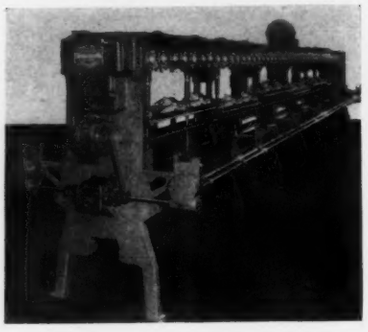
Rayon Pot Spinning Machine

A rayon pot spinning machine which, it is pointed out, has a traverse action three times as fast as heretofore available, has been developed by H. W. Butterworth & Sons Co., Philadelphia, Pa. The faster traverse action, it is explained, produces an open basket weave which makes for easier washing, de-sulphuring, and bleaching in cake form. In the funnel mechanism, the funnels are moved out of the way by a single motion. The entire sec-



Rayon pot spinner

tion, consisting of eight funnels, is raised at one time. All working parts of the machine are totally enclosed, running in oil, and automatically lubricated. The P. I. V. compensator also runs in oil; this compensator permits the changing from one denier to the other without the use of a series of change gears.

The traverse is adjustable for speeds from 20 to 60 strokes per minute. The traverse bars are in the center of the machine, totally enclosed. The Godet wheels may be removed or replaced while the machine is in operation, and will always have absolute concentricity.

All woodwork is eliminated and replaced by structural steel. The pump drive shaft is of worm and worm wheel construction, totally enclosed. Bronze castings are made from acid-resisting bronze of a special analysis, and all other castings are made from Meehanite iron, more acid-resisting than grey iron, and with a tensile strength of 32,000 pounds per square inch. No cams are required on the entire machine.

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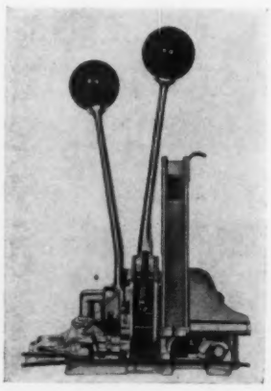
New Box Strapping Tool

Acme Steel Co., Chicago, Ill., have developed an improved box strapping tool, known as the Steelstrapper, to provide increased speed in box strap-



Box strapping tool

ping operations. This new device, for re-inforcing wood and fiber boxes, is a one-unit tool. The manufacturers explain that it tensions the strap, applies a seal, seals the joint, and cuts the strap from the coil. Operations are controlled from two ball-tipped levers. The left hand tensions the strap, and the sealing is done with one stroke of the right hand. The device includes an automatic seal feed; one hundred seals are contained in a clip.

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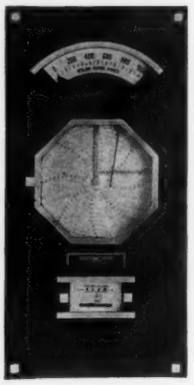
New Meter Design Features Cartridge Sealed Elements

In a complete re-vamping of design in their entire line of flow meters, the Republic Flow Meters Co., Chicago, Ill., announce that the new design is built around the cartridge sealed element, a term new to the instrument field. This element consists of the actuating unit



New design in flow meters . .

designed and built to fit into a metal cartridge which forms a compact, sturdy element ready for mounting on the instrument panel. There are three types of reading instruments, the indicator, the recorder and the integrator, each with its actuating mechanism mounted in a separate cartridge sealed element, which is interchangeable and may be easily removed from the back of the panel. The metal cartridges protect the elements from dirt, moisture and abuse, it is pointed out.

This new principle of mounting each actuating unit as a separate element simplifies the entire meter assembly, it is explained, making it possible to remove readily any specific element without disturbing any of the others.

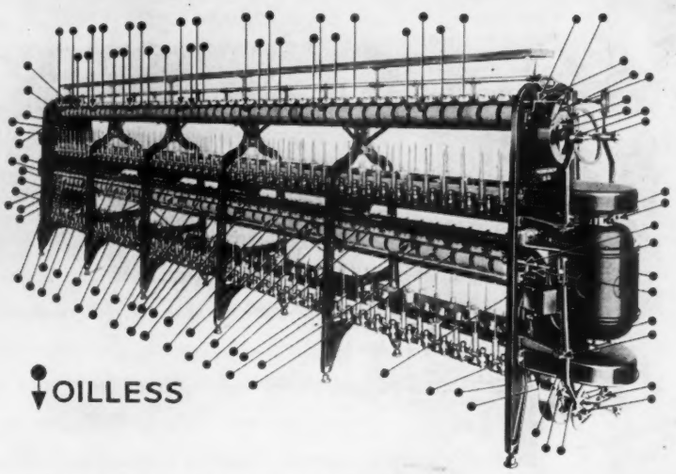
The company's meters are now mounted nearly flush with the front of the panel board; the entire panel is the work of a prominent designer. The bezel of the instrument extends about 1-inch from the panel; the bezels are of cast aluminum with black marine finish, and polished aluminum trim.

This simplification in instrument design and assembly applies to the entire line of reading instruments. In the pen recorders, the pen adjustment is accessible from the front of the instrument. A new boiler horsepower indicator, known as the "CS-24" indicator, with 24-inch porcelain enamel dial with large white figures on a black enameled field, has been introduced.

ATWOOD MACHINES PRODUCE THE BULK OF AMERICA'S SILK AND RAYON YARNS

Now OILLESS

FOR SILK AND RAYON



THIS NEW OILLESS MONARCH TWISTER

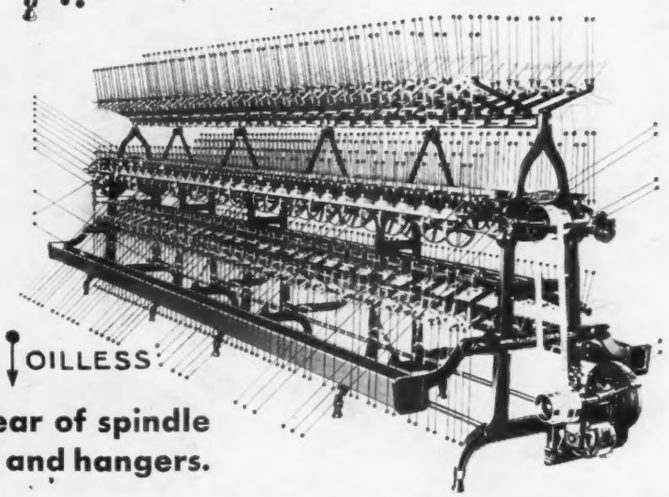
has

96 Oilless Bearings

THIS NEW OILLESS STONINGTON WINDER

has

Oilless Bearings at 544 friction points. It eliminates wear of spindle blades, fingers, swift gudgeons and hangers.



"If you don't use oil you can't get oil spots."

No lubrication attention is needed except at your usual periodic inspection while the machines are down. Oilless operation means less expense for oiling labor and oil, and *cleaner work.*

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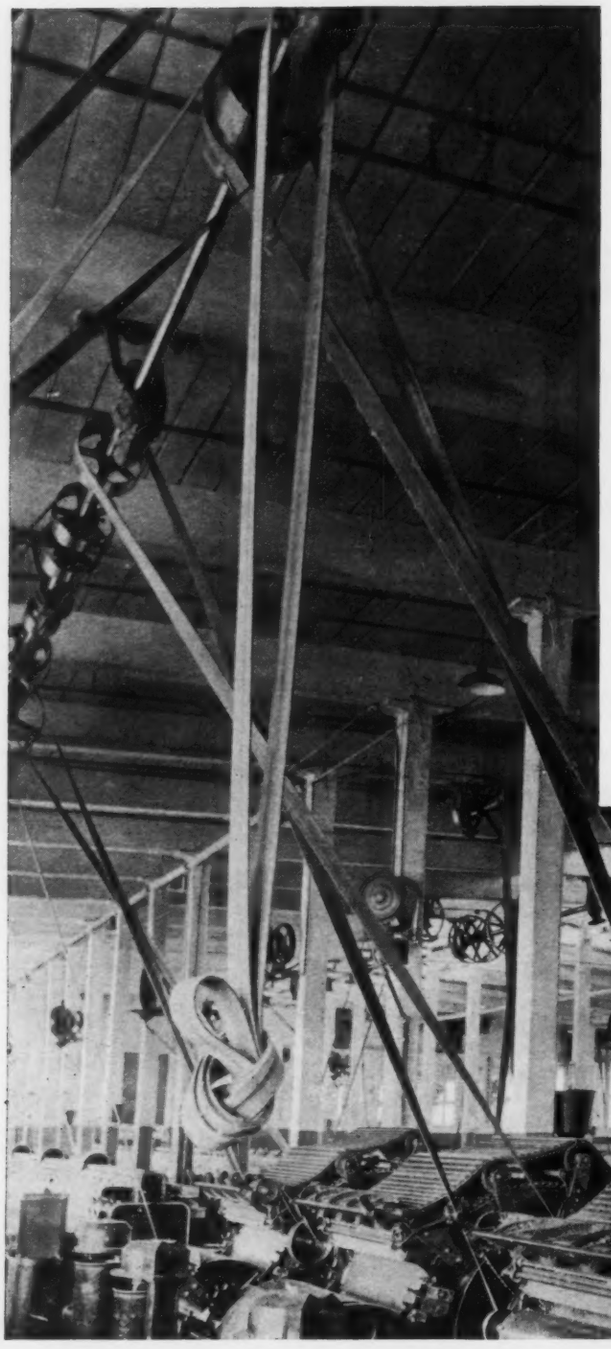
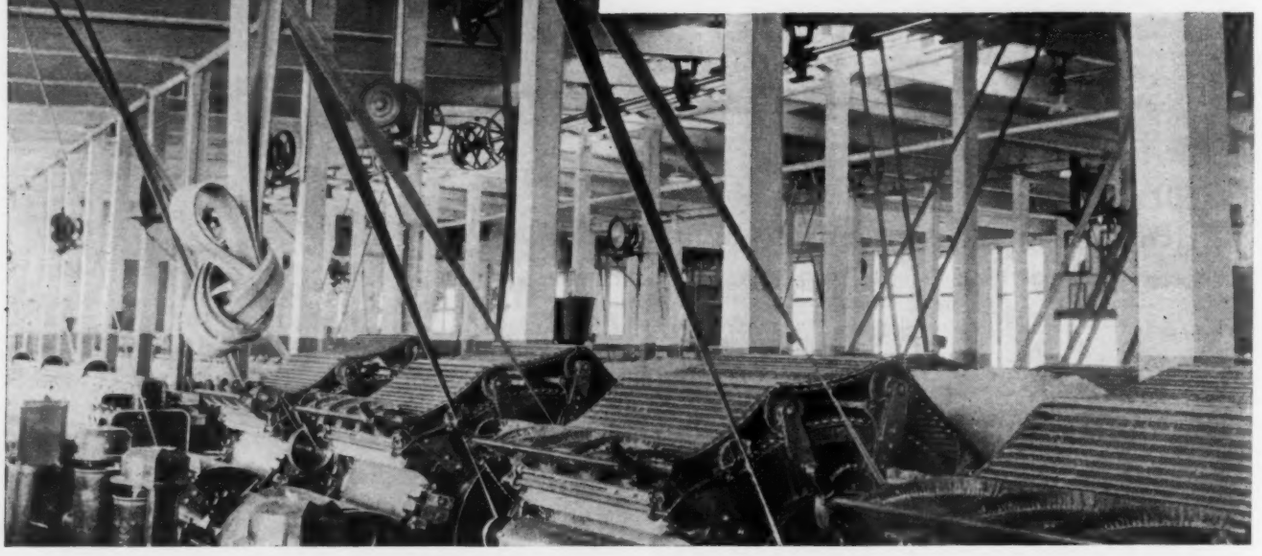
6616

Putting "THE BEE" on a



WHEN rubber and fabric belting was first tried out in the cotton industry, tradition stood in the way of its adoption—a tradition that is fast becoming obsolete. According to the accepted rule-of-thumb, there was only one way to put on a cotton mill belt—that is, *tight* . . . exactly as leather belting had always been put on. The tendency of cotton fabric to *shrink* (as opposed to the tendency of leather to *stretch*) in cotton mill humidities was entirely overlooked. So the rubber and fabric belt went on tight, and as it absorbed moisture got tighter still . . . built up destructive tensions that pulled out fasteners, caused edges to fray against the shifters, tore the rubber out of the surface and the life out of the belt—until finally its elasticity was gone, its recoverable stretch worked out; and only a dead belt was left, shorn of its gripping power. This experience quite naturally gave rubber and fabric belting a black eye!

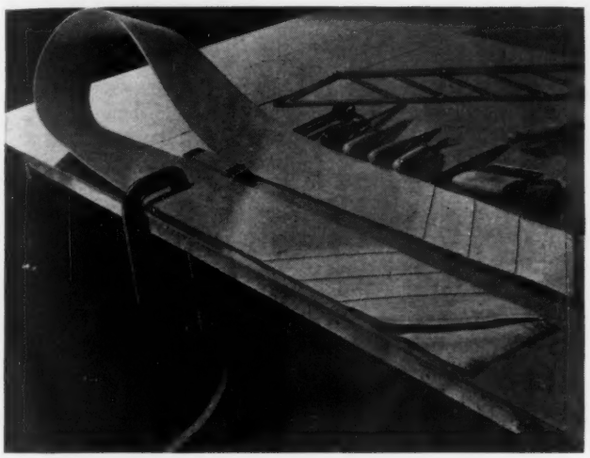
But there were a few progressive operators who insisted that the trouble lay not so much in the product itself as in the manner of its application on their



● *SACO-PETTEE CARD—MAIN CYLINDER DRIVE FROM LINE SHAFT: 3″—5 Ply rubber and fabric belts applied in 1927. Because they were applied with allowance for shrinkage, not stretch, these belts are in perfect condition after 5 years of service.*

Goodrich

Worn-out TRADITION



● *HIGHFLEX, JR. can be made endless on the job with the aid of a portable vulcanizer. This picture shows both ends of a splice completely stepped down, with the edges bevelled and the surface of the splice cleaned, ready for cementing.*

drives. Working in this direction, Goodrich found the answer . . . in a simple method of conditioning and application, which is today effectively putting "the bee" on a worn-out tradition. When properly applied, rubber and fabric belting retains practically all of its original tenacity and stretch . . . maintains operating speeds day in and day out, because it will not relax under tension. Under constant tension, fasteners will not pull out nor bearings burn; and uniform production is taken for granted.

But that is only a part of the story. No sooner had the adaptability of rubber and fabric belting to this service been established, than the way was open to perfect a specific design for "the first special cotton mill belt." Goodrich Highflex Jr. was the result. It is made from duck that is better balanced for the peculiar conditions of cotton mill service—a duck that is different from any ever used before in the construction of rubber and fabric belting. It differs in quality of yarn, nature of weave, percentage of crimp and ratio of moisture permitted at various stages of manufacture. There are more plies to a given thickness—and in this case that means greater strength for a given thickness. The rubber used is especially compounded to give greater flexibility, better gripping surface, and longer life.

Incidentally, Highflex Jr. represents a saving of 30% to 50% in initial cost, as compared with ordinary grades of belting in common use; *and is capable of earning that cost within a year to 15 months through increased production.*

Experience on thousands of drives, both main and secondary, can now be cited in proof that Highflex Jr. is superior to any other type of belting regardless of cost. That is why leading operators specify it, and are glad to exchange for the advantages it insures, an outworn tradition of belting practice . . . The B. F. Goodrich Rubber Company, Mechanical Rubber Goods Division, Akron, Ohio.

●

GOODRICH MECHANICAL RUBBER GOODS FOR THE TEXTILE INDUSTRY INCLUDE:

- *Transmission Belting*
- *Conveyor Belting*
- *Air, Water, Suction, Steam and Fire Hose*
- *Roll Coverings*
- *Packing . . . and*
- *A Complete Line of Miscellaneous Rubber Items*

ALL *products problems* **IN RUBBER**

Highflex Jr. Belting

NRA U.S. WE DO OUR PART

TIMELY NEWS ITEMS WITH A TEXTILE SLANT . . . .

Torrington Opens Office In Greensboro, N. C.

The Torrington Company, Torrington, Conn., manufacturers of needles and related parts, have opened a new southern branch office in the United Bank Bldg., Greensboro, N. C., where a stock of all types of knitting needles, both latch and spring beard, as manufactured by this company, will be carried. Increasing business in the territory has occasioned the opening of the new headquarters, which will be under the supervision of Henry D. Blake, Jr., it is announced. Mr. Blake is well known in the territory, having served the southern trade for many years. He will be assisted in his new duties by Fred L. Rowe, of Torrington.

Henry Blake, Jr.

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Scheuer Opens Uptown Branch

Scheuer & Company, textile brokers and consultants, 72 Leonard St., New York City, have opened a fully-equipped uptown branch at 1450 Broadway, where the sales staff of the silk and synthetic yarn department is now located. The cotton and cotton mixture fabrics—and the designing staff and laboratory—continue at the main office. The new branch is managed by Arthur Cohen and S. Mortimer Bloom, and Messrs. Muldoon, Eichler, Bender, Shea, Rosenbaum and Marx are associated with them.

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Knit Goods Directory

Davison Publishing Co., 50 Union Square, New York City, have issued the new edition of Davison's Knit Goods Trade directory, listing all knitting yarn spinners, knit goods manufacturers, knit goods agents, knit goods wholesalers, knit goods chain stores, and knit goods department stores, as well as dealers in machinery, supplies, rayon and silk, waste, throwsters, dyers, maps and statistics. The publishers state, to emphasize the importance of a new edition, that this current edition shows nearly three times as many changes from the previous listings as normally.

This directory, covering the entire knitting trade, is published in two editions, the office edition, $6.00, and the handy edition, $5.00. Copies may be secured direct from the publishers, or through COTTON'S book department.

:: :: ::

Code Authority for Textile Machinery Manufacturers

A code authority has been named for supervising and administering the code for textile machinery manufacturers, details of which were given on page 42 of the November issue of COTTON. The industry will be divided into 14 divisions, including parts and accessories. Concerns affected by the code, which was signed by President Roosevelt on October 3rd and has been in effect since October 13, include all those who manufacture for sale "complete machines and parts thereof and accessories therefor used in textile establishments for the actual manufacture of yarn and/or woven fabrics or for finishing or dyeing, whether as a final process or as a part of a larger and further process." If any employer under the code is also an employer of labor in any other industry, the provisions of the textile machinery manufacturing code apply to and affect only that part of his business which is included in the textile machinery industry. The National Association of Textile Machinery Manufacturers were the sponsors of the code. Headquarters are at 38 Chauncy St., Boston, Mass. The members of the code authority as elected are:

David F. Edwards, chairman, Saco-Lowell Shops; John F. Tinsley, vice-chairman, Crompton & Knowles Loom Works, Worcester, Mass.; William H. Cliff, secretary, 38 Chauncy street, Boston; E. Kent Swift, Whitin Machine Works, Whitinsville, Mass.; B. H. Bristow Draper, Draper -Corporation, Hopedale, Mass.; Parkman D. Howe, Universal Winding Co., Boston; S. F Rockwell, Davis & Furber Machine Co., North Andover, Mass.; J. J. Kaufmann, Steel Heddle Co., Philadelphia; E. H. Pierce, Atwood Machine Co., Stonington, Conn., and J. E. Butterworth, H. W. Butterworth & Sons Co., Philadelphia.

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Fafnir Moves Atlanta Office and Warehouse

Fafnir Bearings, Inc., Atlanta, Ga., have removed their offices and warehouse facilities to 288 Spring St., N. W., Atlanta, where a complete line of bearings for both automotive and industrial purposes is carried in stock. A G. Laughridge is branch manager.

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Vail Receives Chemical Industry Medal

James G. Vail, chemical director and vice-president of the Philadelphia Quartz Co., 121 South Third St., Philadelphia, Pa., was presented the new chemical industry medal of the American section of the Society of Chemical Industry, at a recent meeting held at the Chemists' Club in New York City. The meeting was held jointly with the American Chemical Society, the Electrochemical Society and the Societe de Chimie Industrielle. The Chemical Industry Medal is an honor instituted by the Society of Chemical Industry this year, for award annually to a person making a valuable application of chemical research to industry. Mr. Vail is the first recipient of this award, in recognition of his work on sodium silicates in industry.

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Textile Patents of Interest

According to Paul B. Eaton, patent attorney, of Charlotte, N. C., there were recently granted to Southern Silk Mills of Greensboro, N. C., eight patents relating to textile machinery.

One patent relates to a shuttle truing machine whereby shuttles can be perfectly trued so as to do precision work in silk looms and the like. Another relates to a combined brake and clutch release for looms whereby a plurality of stop motions operate the shift lever to actuate the brakes and clutch and are connected between the shift lever and brake applying means whereby the shift lever may be moved manually for a further application of the brakes after the brakes have been applied by the moving of the shift lever and automatically to inoperative position by one of the stop motions.

Another patent comprises a special truck onto which the cloth or warp is wound and one of these trucks is secured to each end of a textile machine, one as a feed roll and the other as a take-up roll and when the take-up roll has been filled, its truck is released from the machine and truck and roll are transported by rolling to the next machine where the truck is secured to the next machine as a feed roll to feed the cloth through the next machine and a similar truck is secured to the take-up end for receiving the cloth after it has been treated by the machine. In this manner the cloth can be passed through various machines and onto a truck and rolled to the next succeeding machine, thereby, eliminating any necessity of lifting the warp roll or cloth roll as the case may be.

Another patent relates to a drawing-in frame or entering frame which has means for raising the warp rolls to elevated position and automatic means for stopping the raising and then when the roll is to be lowered there are automatic means for stopping the lowering of the roll.

Another patent covers a cloth inspector in which an alcove is built around the cloth inspector and the cloth passes up over the top of the inspector's head and down in front of the inspector and then towards the inspector onto the conventional table, thus giving three different points of inspection at the same time.

Another patent relates to a parallel picker motion for looms. Still another patent relates to a beam truck whereby empty warp beams can be stood on end on a truck having a vertically disposed framework and means for supporting the spindle ends of the warp rolls so that a plurality of these empty warp rolls can be transported from place to place by trucks.

Another patent relates to a web roll truck comprising a four-wheeled affair with only two of the wheels touching the floor normally and curved members are provided on the upper end of the truck with a flexible web secured over the curved member so that the flexible webs support the roll without chafing as the roll is not allowed to engage the steel portion of the truck.

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Textile Patents of Interest

It is announced by Paul B. Eaton, Charlotte, N. C., patent attorney, that Henry V. Underwood, of Belmont, N. C., was recently granted a patent on a package holder for dyeing machines. This holder is adapted to be secured in the supply pipe and holds one hollow package of yarn. The holder is in the form of a stiff spiral spring and one end is mounted in the base which screws into the supply pipe and the other end has a nut thereon to tighten the hollow package of yarn on the holder. The resiliency of the spring compensates for any change in length the increased temperature will effect on the holder and thus prevents leaking at the ends of the package. Also Isaac Andrews of Spartanburg, S. C., recently obtained a patent on a heddle frame construction, Claim 1 of the patent reading as follows:

"1. A heddle frame comprising upper and lower bars, pivoted end bars for holding the upper and lower bars in spaced relation with each other, heddle bars supported by the upper and lower bars, said end bars having openings to receive the ends of the heddle bars on the end bars, and means for securing the heddle bars against movement."

THE COST OF TRANSPORTATION IS GOVERNED MOSTLY BY DISTANCE AND WEIGHT

HINDE AND DAUCH CORRUGATED FIBRE BOXES DO NOT CONTAIN AN OUNCE OF SUPERFLUOUS WEIGHT YET 100% PROTECTION AND SAFETY ARE ASSURED « « « « «

● It is an obvious fact that freight and truckage costs are governed by distance and weight. It is also obvious that Hinde & Dauch shipping boxes help reduce both these elements of expense.

● H & D corrugated fibre shipping boxes are tough, strong and durable — yet their construction makes them exceedingly light in weight. Their staunchness gives 100% protection to your products in transit. Their light weight minimizes freightage both in and out.

● Hinde & Dauch, with box factories conveniently located to insure you against long hauls on shipping box deliveries, offer you the most convenient and practical shipping box service ever developed at a cost that is surprisingly low. It will pay you to use this service. Send your inquiries to

THE HINDE & DAUCH PAPER COMPANY
454 Decatur St. » » « « Sandusky, Ohio

HINDE & DAUCH *Engineered* SHIPPING BOXES
LIGHT WEIGHT » DURABLE » DUST-PROOF

H & D FACTORIES ARE AT YOUR SERVICE IN
BOSTON, RICHMOND, BALTIMORE, PHILADELPHIA, NEW YORK, BUFFALO, CLEVELAND, SANDUSKY, SAINT LOUIS & KANSAS CITY IN CANADA, TORONTO & MONTREAL

PERSONAL NOTES

about Men You Know

JAMES W. COX, JR., has resigned as president of the Sibley Mfg. Company, and Enterprise Mfg. Co., Augusta, Ga., which position he has held for the past three years. His resignation will become effective not later than February 14, 1934.

REYNOLDS LONGFIELD, who has been chief engineer at the Sibley Mfg. Company, and Enterprise Mfg. Co., Augusta, for three years, resigned, effective last month.

F. LANIER BRANSON, president of the Graniteville Mfg. Co., Graniteville, S. C., is expected to be made president of Sibley and Enterprise at Augusta when Mr. Cox's resignation becomes effective.

ARTHUR R. THOMPSON, JR., recently resigned his position as superintendent of the North Carolina Finishing Co., at Salisbury, N. C., and has accepted a position with the sales and technical staff of the Ciba Company. He is connected with Ciba's Greensboro office, but will make his home in Charlotte for the present. Other members of the Ciba Company's southern sales and technical staff include R. W. GLENN, southern sales manager, SAMUEL L. HAYES, Greenville, S. C.; SAMUEL I. PARKER, Atlanta; JAMES BLACK, Greensboro, and ERNEST LEFORT, Greensboro.

WM. F. ROBERTSON, JR., who has been assistant superintendent of North Carolina Finishing Co., Salisbury, N. C., for the past three years, has been made superintendent succeeding Mr. Thompson.

WINDER GARY has resigned as general superintendent of Hannah Pickett Mills, Rockingham, N. C.

WILLIAM R. BARNETTE has become agent of the Wolcott and Campbell Spinning Mill, Gulfport, Miss., which has re-opened.

A. E. SANBORN has been appointed by Willcox & Gibbs Sewing Machine Co., 658 Broadway, New York City, to take charge of the Boston office, serving the New England states. Mr. Sanborn has had considerable experience with the company, particularly in the New England field, and is well known in that territory.

T. F. JONES has been made assistant overseer of spinning at night at the Peerless Cotton Mills, Thomaston, Ga. He was formerly connected with the Martha Mills.

L. L. REEVES has been promoted from fixer to assistant overseer of carding at night at the Peerless Cotton Mills, Thomaston, Ga.

R. S. SHAFFER has been made southern representative for the Rochester Engineering & Centrifugal Corp., Rochester, N. Y., formed recently to manufacture the textile and similar equipment formerly made by the American Laundry Machinery Company. Mr. Shaffer's headquarters are at 919 Johnston Building, Charlotte, N. C.

S. N. BOYCE is president of the Flint Mfg. Co., Gastonia, N. C.; A. G. MYKERS is vice president; and R. G. RANKIN is secretary and treasurer.

R. L. LEE, JR., assistant professor of carding and spinning at the Clemson Textile School, Clemson College, S. C., has been awarded a senior fellowship by The Textile Foundation, and will conduct research work at the Lowell Textile School. His classwork at Clemson will be handled by G. GAGO and other members of the faculty. Mr. Lee was graduated at Clemson in 1925.

W. C. PERKINS has joined the sales force of the Atlanta Brush Company, Atlanta, Ga., manufacturers of textile and other industrial brushes. He will represent the company in the Georgia-Alabama territory, and GEORGE B. SNOW, well known among the textile mills as representative of this company for many years, will continue as the company's representative in the Carolinas, Tennessee, and Virginia. Mr. Penkins, the son of T. C. PERKINS, the president of the company, is a graduate of Oglethorpe University, Atlanta, where he was a star football player. The company announces that the increase in business has necessitated augmenting the sales force and also the productive capacity of the plant.

R. B. BURNETT has become overseer of spinning at Rhodhiss Mill No. 2, Rhodhiss, N. C. He was formerly assistant overseer of spinning at the Loray mill, Manville-Jenckes Corp., Gastonia, N. C.

CHARLES W. YOUNG, who was superintendent of the mill of the Goodyear Tire & Rubber Company at Killingly, Conn., which was closed down some time ago, has been put in charge of the plant recently purchased by the company at Decatur, Ala., formerly the Connecticut Mills Co.

SETH NEWSOME has become overseer of carding, second shift, at the Unity Spinning Mills, LaGrange, Ga. He was formerly connected with the Goodyear Clearwater Mills, Atco, Ga.

FRANCIS P. GARVAN was re-elected president of the U. S. Institute for Textile Research, Inc., at the annual meeting in November. CHARLES H. CLARK, 65 Franklin Street, Boston, Mass., was re-named as secretary, and all other officers were re-elected, except W. ROBERT BLUM, vice-president, who was succeeded by A. EAVENSON, president of Eavenson & Levering Co., Camden, N. J.

J. A. MANDEVILLE, president of Mandeville Mills, Carrollton, Ga., has been named as representative of employers on the Georgia State Industrial Relations Board, for handling complaints in Georgia under Section XVII of the Cotton-Textile Code. He succeeds HARRY L. WILLIAMS, president of the Swift Mfg. Co., Columbus, Ga., the original appointee, who was forced to relinquish the board post because of ill health.

ALLYN B. MCINTIRE, vice-president of Pepperell Mfg. Co., with headquarters in Boston, was elected president of the Association of National Advertisers at the organization's annual convention in Washington, in November.

Obituary

WILLIAM T. ELKINTON, chairman of the board of the Philadelphia Quartz Co., Philadelphia, Pa., died on October 25th, in his 73rd year. He was the third generation of his family in the business, which celebrated its centenary in 1931, and the seventh generation of the Elkinton family in America. He is survived by Mrs. Elkinton and two children, THOMAS W. ELKINTON, president of the Philadelphia Quartz Co., and ANNA ELKINTON EVANS.

C. GADSDEN SAYRE, president of the Anderson Hosiery Mills, Anderson, S. C., died recently at the age of 58 years, following an illness of two weeks.

T. H. TURNER, treasurer of the Washington Mills Co., Mayodan, N. C., and Fries (Va.) Mills, died on November 8th, following a heart attack. He was 64 years of age; he was a native of Alabama and had been connected with the Mayo mills for 38 years.

•

BARBER-COLMAN AUTOMATIC SPOOLERS AND SUPER-SPEED WARPERS

•

FOR

GREATER ECONOMY

IMPROVED PRODUCT

LOWER COSTS

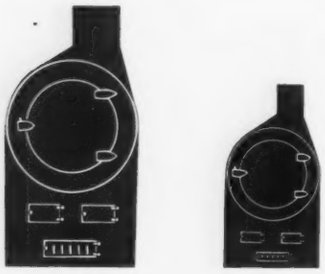
•

Wherever SAVINGS are important, you will find FOXBORO INSTRUMENTS

Every mill is different, but here is a typical example of the savings made possible in one mill by Engineered Slasher Control.

29% Savings in the Cost of Size Ingredients

This saving, although large and in itself enough to pay for the control instruments, was incidental to getting the correct size formula. A size was required that would give uniform warps. In getting the correct formula, this saving resulted. It is an example of how thoroughly our engineers understand slasher operations.



12-15% Decrease in Steam Consumption

The steam saving is another extra. It is the direct result of doing the whole job correctly—and automatically. It means that the warps are not being over dried, but that they come off the cylinders at just the correct moisture content for best weaving practice.

LOOM DANDRUFF

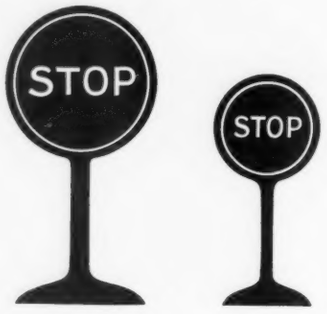
The dandruff-like particles around your looms (size flaking) are signs of a wonderful opportunity to make immediate savings. The savings described on this page paid for the entire slasher control equipment in less than six months.

You can probably guess how much these savings would mean in your mill. The best way to find out whether such savings are possible is to ask a Foxboro Engineer to look over your slashers.

15-20% Increase in Slasher Speed

This is a definite increase in production with the direct savings in all items that go into production costs. These savings are due directly to properly installed automatic control equipment. In spite of such saving in costs, more uniform warps in much better weaving conditions, resulted.

Whether the important problem be increased production, lower costs or better quality—Engineered Slasher Control will solve it.



25% Decrease in Loom Stoppage Due to Warp Breakage

This important production saving is an average of the savings made on nine styles. On some styles, the reduction amounted to nearly fifty per cent. In every test made, warps slashed under automatically controlled conditions, showed a substantial reduction in breakage on the loom.

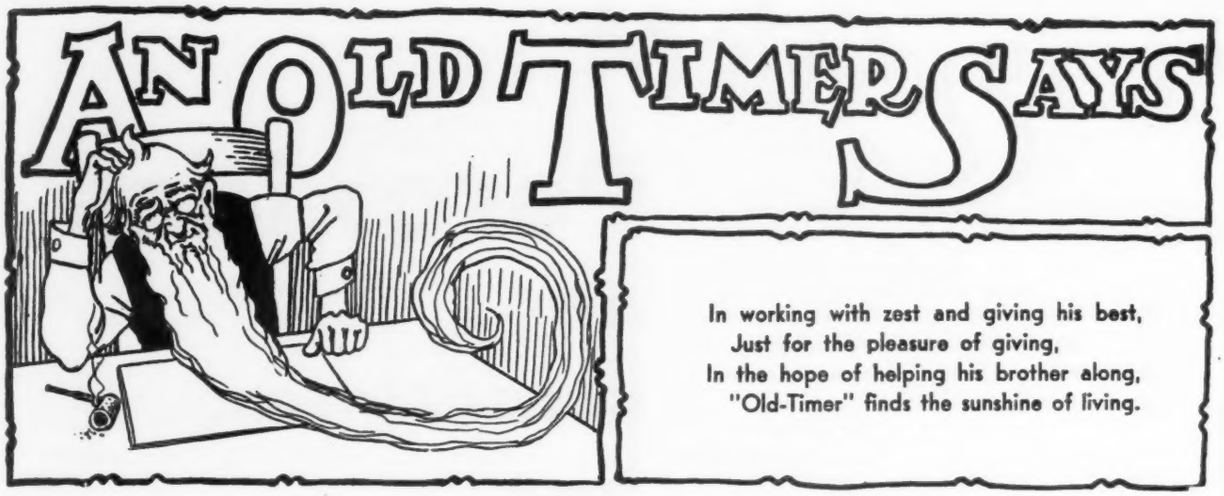
Don't put off investigating the value of automatic control on your slashers. Talk to a Foxboro Engineer. There is no obligation—and you will profit from the talk. Write today.

THE FOXBORO COMPANY
Foxboro, Mass., U. S. A.

OFFICES IN
ALL PRINCIPAL CITIES

FOXBORO
REG. U. S. PAT. OFF.
THE COMPASS OF INDUSTRY

COMPLETE TEXTILE MILL INSTRUMENTATION


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

Some Random Thoughts

So many overseers and superintendents are satisfied in their efforts to obtain that which is *desirable*, but the man who draws the big salary is constantly dreaming about what is *possible to obtain*. He is not satisfied with a record that is in line with his competitors. That is not his goal. He is thinking and planning about what it is possible to obtain.

* * *

"He Can Who Thinks He Can," by Orison S. Marden, is a book written in a light, interesting vein that should be read about once a year or oftener by every superintendent and overseer. It is just as logical to think that one reading of this book is sufficient as it is to think that it is possible to tell a man one time what he should do and expect him to keep on *doing it.*

* * *

Strange, isn't it, that an overseer or superintendent must continue giving the same instructions and orders to the same people day after day, month after month?

Yeah, that is strange, but stranger still, is the fact that those same overseers and superintendents must have someone give them practically the same orders day after day, month after month and year after year.

Gosh! it does look like we would learn some time, doesn't it?

* * *

We have had depressions before, and my experience has been that they have always developed some outstanding overseers and superintendents. What have you been able to do with yourself during the present depression? Have you done something which, when times get better, will make your employer realize that you were a valuable man when he needed a valuable man?

* * *

By some more or less successful overseers and superintendents it is considered good judgment, when presenting a problem to their employers, to present only the more favorable points or arguments rather than to submit both sides of the problem in an unprejudiced or unbiased way.

What I am trying to say is that when an overseer or superintendent wants to get his employer's consent to do certain things or get his permission to spend money for machinery or certain supplies, in his argument he will present only his personal views, in order to carry his point, knowing at the time of certain objectionable features, of which he does not inform his employer.

OLD-TIMER'S advice, fellows, is to give the boss the *whole* story. First present your side—your argument for the affirmative; then tell him all you know on the negative side, and usually, to your mutual benefit, the boss will be in a more receptive mood to enter into the argument with you.

* * *

"WE ALL GO UP AND DOWN TOGETHER" *was the title of an article which was prepared by* OLD-TIMER *in 1915—eighteen years ago. The article was prepared as a little booklet, which many mill presidents and treasurers bought by the hundreds to be distributed among their operatives.*

The present prolonged depression has certainly done a great deal to make both employer and employee realize the truthfulness of that statement, which is one of the axioms devised by OLD-TIMER *for his readers.*

* * *

We build our future thought by thought,
For good or bad, and know it not.
Yet so the universe is wrought.

Thought is but another name for fate;
Choose then thy destiny and wait,
For *love brings love* and *hate brings hate.*

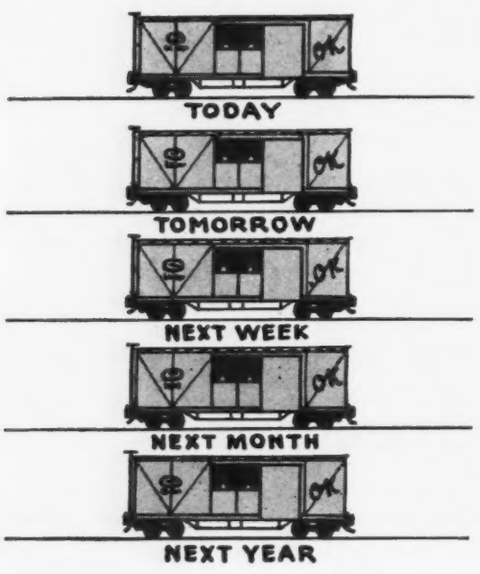
Ella Wheeler Wilcox.

"For love brings love and hate brings hate."

In that one line is a wonderful thought—a thought which few men or women have ever been able to appreciate.

If the average overseer and superintendent could once get the full meaning of that thought in his mind it would change many *just ordinary men* into *success-*

UNIFORM



Peroxides *not sometimes, but* Always!

UNIFORM bleaching results depend upon uniform chemicals. Variation in the quality or strength of chemicals means extra work and uncertainty in the bleaching operation, and may lead to loss of trade through the lack of uniformity in bleached goods. Protect the quality of your goods by standardizing on peroxide bleaching with

Uniform du Pont Peroxides

ALBONE* C and SOLOZONE* both are made under chemically controlled conditions of manufacture—the only way to be *sure* of getting uniform materials. An additional assurance of the uniformity of these peroxides are the rigid tests run on representative samples before shipment is made. These tests show that du Pont Peroxides meet high specifications on strength and purity . . . that shipment after shipment is uniform.

The uniformly high quality of ALBONE C and SOLOZONE assures you of simplified, dependable peroxide bleaching. Standardize on these products—they will standardize your bleaching.

Our Technical Service will gladly demonstrate the advantages of these peroxides in your process. For information, simply address E. I. du Pont de Nemours & Company, Inc., The R. & H. Chemicals Department, Wilmington, Delaware, or write to the nearest of the district offices listed below.

* * *

ALBONE C is du Pont Hydrogen Peroxide, 100 volume electrolytic, containing approximately 13% by weight of available bleaching oxygen. SOLOZONE is du Pont Sodium Peroxide, containing 20% + of available bleaching oxygen. Both can be shipped promptly in commercial quantities from stocks carried in principal distribution centers.

*Reg. U. S. Pat. Off.

DU PONT
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R&H Chemicals
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The R. & H. Chemicals Department

E. I. DU PONT DE NEMOURS & COMPANY, INC.

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ful men. It would cause many men who are considered hard to get along with—any men of whom their employees believe: "He thinks himself better than we are," when he really doesn't—many men who are considered just plain *mean*—to be more respected by their employees and be better thought of by their brother overseers and superintendents. Even a dumb animal—a dog—a horse—will respond kindly when they are treated kindly. An overseer or superintendent does not lose any of his authority by realizing that "love brings love and hate brings hate".

I do not mean love in the sense of affection, but rather in the sense of fairness and in the realization that the other fellow is a human being, and, it matters not what your position is, he or she is entitled to that consideration.

I made this remark about a man the other day: "That man can say 'Good morning' to you and make you mad."

Many an overseer or superintendent will give orders to his employees that will make them resentful—will not obtain their co-operation—will not get the same results that another overseer or superintendent will get who realizes that, "love brings love and hate brings hate."

Say a kind word to a dog and he will soon be wagging his tail every time he sees you, and if you will notice his eyes, you will see that he is trying his best to say that he likes you, and if anyone should hit you he is ready to bite them.

By scolding that same dog he will, in turn, growl when he sees you coming, and if given the opportunity, he will take a chance at biting you.

Cut the foregoing piece of poetry out and paste it in the back of your desk or some place where you will see it often. Probably you will get the thought, and, incidentally, you will derive real happiness from it.

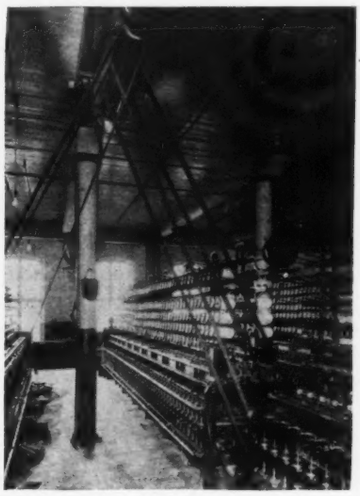
* * *

Neither Labor nor Capital can prosper permanently unless the just rights of both are conserved. This is being realized, more and more, by both Capital and Labor—Labor as it reads more textile magazines, more daily papers and becomes better educated and Capital as it goes through more depressions, causing a realization of the real needs of Labor and the value of co-operation.

Transmission Belting for Cotton Mill Drives

By J. R. Thompson* and R. H. Whitney*

SOME recent revelations resulting from research in connection with the use of "rubber-and-fabric" transmission belting in cotton mills will be of interest to mill operating executives. In the earlier stages of the application of this belting to the mills, a great many cotton manufacturers were attracted to its use. Strong claims were made by the manufacturers—without studying carefully the conditions peculiar to cotton mill operation and their effect upon the belting problem.



The mills tried out these new belts, and many had such good results for a few months that they ordered more. Then, in many cases, belts began to fray at the edges, open up at the plies, fasteners pulled out, belts stretched and slipped, machines were shut down, bearings burned out. All with no reason being presented.

In the minds of a few men in the industry, however, the question persisted: these belts had given distinctly successful results for a short time—why had they been so short-lived? The answer has been found—an answer almost ridiculous in its simplicity! It would be almost impossible to find a textile man who could not readily explain the reaction of fabric and leather belting to moisture. However, in most of the applications, this known reaction had been overlooked.

The shrinkage of rubber-and-fabric belts, when applied in the unusually humid atmosphere of a textile mill, had not been anticipated. The belts had been applied in the usual manner. Neither the manufacturer nor the user had stopped to think. So the rubber-and-fabric belt went on tight, and as it absorbed moisture it tried to become tighter, built up destructive tensions that pulled out fasteners, caused edges to fray against shifters, pulled the rubber out of the surface and the life out of the belt. All of the elasticity or recoverable working stretch were taken away.

The interesting development is that, with this point realized, the same factor which caused these troubles in the past with these belts has been utilized for making them entirely suitable for cotton mill use now. A means has been found whereby belts can be applied and their tendency to shrink, rather than stretch, can be capitalized. The retention of the belt's elasticity, it has been demonstrated, causes the belt to keep its gripping power, with less permanent stretch, resulting in less attention and less taking up.

The use of portable electric vulcanizers enables the belt user to make a belt endless on the job rapidly and with a minimum of lost time. Splices are usually of stepped construction with special vulcanized sealing strips to prevent failure; these splices, if correctly made, resulting in longer belt life, without fasteners.

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HOW OTHER MEN MANAGE

Practical Discussions by Cotton's Readers On all varieties of Mill Subjects

Causes of Cloth Telescoping on Loom

Other readers with experience with this difficulty are invited to submit their means of overcoming it.

A MILL recently submitted for discussion an inquiry as to the probable causes of cloth telescoping on the cloth roll as it is being wound on the loom during weaving. It was explained that this trouble seemed to crop up at different places in the weave room, and that it was not confined to any particular loom or section; but that most of the trouble was encountered on cloths of light construction. Four answers were secured and submitted to the inquirer, and are presented here as of possible interest to other readers. Any reader with information on the subject is invited to submit his experience and ideas concerning this difficulty.

The first man wrote: "If the sand-roll bearings are worn—and one end will probably wear a little more than the other—it will sometimes cause the sliding or telescoping of the cloth on the cloth roll. It may do it on this roll of cloth and not on the next; not quite as badly, anyway. By all means check on the lost motion in the take-up roll (sand roll) bearing.

"Another cause is worn cloth roll blocks, and by replacing the worn fiber blocks it ought to help considerably.

"Still another cause of some interest is the correct setting of the upright arms that hold the cloth roll blocks. These arms should be set so the teeth on the right-hand arm correspond with those on the left-hand arm—in other words they want to be set to the same level so that with new cloth roll blocks being used and a cloth roller in place it will be level if you gauge it; if the cloth roll is not level look out for this trouble. It is somewhat like calender racks on a picker—one may be slightly ahead of the other, making a big and little ended picker lap."

The second man said: "We have experienced quite a bit of this trouble and at times we still have some of it. You did not state if the mill having this trouble is weaving directly onto the cloth roll or a paper tube. We do all of our weaving on paper tubes, and if the tube becomes so worn on the ends that it does not fit properly on the steel roll, it will slip and cause telescoping.

"I might state also that all of our paper tubes are sanded some four or five inches on either end so that the cloth will not slip on the tube itself. Should the mill be weaving directly on the steel cloth roll the vibration of the loom is likely to cause the cloth to be beaten to one end or the other.

"I believe a sanded paper tube or the roughening of the cloth roll will stop the telescoping to such an extent that the trouble will be very nearly eliminated. Of course if the cloth roll is roughened, it will be necessary to roll the cloth from the roll due to the fact that the roll cannot be slipped from the roll of cloth."

The third answer states: "The only reason for telescoping that I can think of right now is, if the sand roll was not level, it would give this effect. I also believe that if the sand roll covering, whatever might be used, should become worn smoother on one end than on the other, it might give this result. But the more probable reason is that the cloth roll blocks are not pressing uniformly on the end of the cloth roll. These blocks usually have an oil-wood bearing and should hold up on each end of the cloth roll uniformly. There is of course a slight possibility that some foreign substance would get into the wood bearing, on one end or the other, giving it an 'un-uniform' drag. We find in weaving that if the harnesses are not set level, the warp becomes slack on one or the other selvage, which gives the filling a different take-up, and it is possible that this might cause telescoping."

The fourth man made the following comments: "We have had plenty of trouble such as you describe and you will notice from the following paragraphs that we have not always approached the problem from a scientific angle but have worked it out more or less haphazardly, somewhat like a fellow who might have a cold and treat it by taking aspirin, soda and throat gargle, two or three kinds of patent medicine, a couple of drinks of corn licker and what-have-you, and after awhile the cold disappears. One of the remedies might have turned the trick or it might have been the combined conglomeration.

"1. Telescoping of the cloth is sometimes corrected by leveling the take-up roll and the cloth roll rod. This should be done with a spirit level.

"2. Overhaul the take-up motion, see that the mechanism which allows the cloth roll rod to travel downward as the cloth roll gets larger, works freely

◆ ◆

WE invite our readers to make use of this department for the discussion of any and all problems arising in the mill or finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. The editors do not hold themselves responsible for any statement of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

◆ ◆

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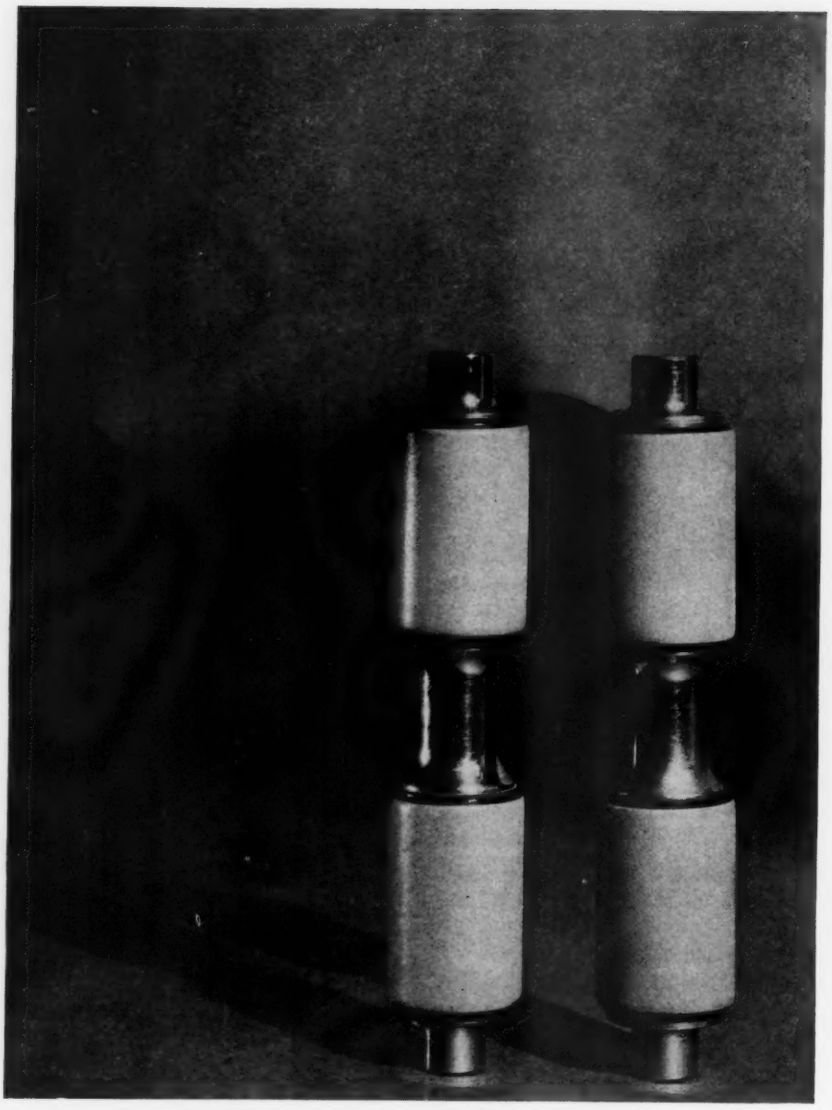

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and with a good pressure upward.

"3. See that the wooden bearings at each end of the cloth rod are in good condition and are of the same dimensions.

"4. See that the take-up roll bearings and journals are not worn and that all parts work freely.

"5. If the new roll is started on the naked rod, it will be necessary to make sure that the cloth does not slip and we have found it difficult to overcome such slipping. The method we have found to avoid slipping is to use a pasteboard tube over the cloth rod. This tube is sanded on both ends to allow the first layer of cloth to grip the tube tightly.

"6. Strip all cloth from the take-up motion, lay the cloth roll rod in place and wind it up against the sand roll by hand, using the crank. See that each end of the cloth roll rod reaches the sand roll at exactly the same time."

Wants Weavers in Back Alleys

EDITOR COTTON:

I notice in the "HOW OTHER MEN MANAGE" department some discussion on the subject of weavers in the back alleys, and thought I would give some of my own experiences in this connection.

While I realize that if the warps were perfect there would not be as much patrolling required in the back alleys as is actually the case, still, in a life time of experience in the weave room I have never seen a perfect warp, and so I defend the man who says he requires his weavers to walk the back alleys. On my job, I have a regular schedule of patrolling, both front and back alleys, requiring the weaver to cover the back of his looms about every 15 minutes and take out any gouts or slugs that may be coming up in the warps. Of course the weaver covers the front alleys about every five minutes.

I find that with this schedule we eliminate 90 per cent of our pick-outs, by getting the cause removed before it reaches the drop wires. Of course if production were the only consideration, then it would be all right to stop patrolling the back alleys. "CONTRIBUTOR No. 6252" in the September issue states that a weaver cannot see his product from the back. About the only thing a weaver cannot see from the back would be broken picks or slugs in the filling, etc., and if he will have his filling perfect, there won't be any of this trouble, so he won't need any weavers, provided his warps are, as he would lead us to believe, "perfect".

I must admit that the weaver is usually made the goat of the mill, and is expected to make good cloth regardless of the yarn he is given from the warpers, but I have yet to find a superintendent who would not co-operate with his weaver and give him the best he could to do with.

"CONTRIBUTOR No. 6252" makes the remark that he cannot start a loom from the back alleys. Well, maybe he can't, but there are some looms in operation that can be started from the back as well as from the front. I happen to have this kind of loom. The cloth I am making averages 75 per cent warp and 25 per cent filling; and 75 per cent of my troubles are in the warp, so by walking the backs and taking out any defects that would cause trouble when it got to the harness, we eliminate a lot of trouble. I would be glad to see more discussion of this subject in COTTON.

CONTRIBUTOR No. 6286.

A Discussion of Solid Creeling

This subject, brought up by The Scavenger Roll in September, is further discussed by a regular contributor . . . . . .

EDITOR COTTON:

The suggestion made in The Scavenger Roll department of the September issue of COTTON for a thorough discussion in the "HOW OTHER MEN MANAGE" section of the subject of creeling solid, as discussed in that issue, has been noted and I am herewith making an effort to give my views on the subject.

At several mills I have seen the creel solid method of creeling in practice on different processes and have drawn some conclusions concerning the matter.

The best of card hands are aware that to lay a complete line of laps is to their convenience and benefit. Furthermore, it is a good policy to put in a complete set of laps on combers as they are beginning to run out. The lapping machines—both sliver and ribbon—can be set to have the same number of yards in them, or very nearly the same, though it is very necessary to keep the combing machinery extraordinarily clean at all times, as over-speeded combers and overloaded comber tenders are bad things to have in a mill.

Creeling drawing frames completely at one time and cleaning only at the time of creeling, except picking the clearers at each doff, is truly one of the best methods to eliminate clearer waste and other waste that will drop into the finished drawing sliver, and naturally in the subsequent processes after this waste is attenuated. However, if there is no combing machinery, the solid creeling of draw frames with card sliver will almost in every instance after creeling require a set of pieces to be turned from the emptying cans and in this will make a few cans of pieces to be run in another creel. The regularity of doffing at the card is not precise enough to eliminate these pieces, or to have every can run out at nearly the same time.

Modern drawing frames are equipped with knock-off motions that are wonderful aids in putting over this practice, and will naturally reduce the amount of waste that will inevitably be re-worked for the second and third processes.

Slubbers are a place where the solid creel is advantageous, and the cleaning is much easier done when the sliver cans are taken away from the frame. However, at each doff the flyers should have the flying waste removed from them and the roller beam and carriages wiped in order to maintain as clean quality roving as can be produced. The slubber being the first process of roving, it is the initial place where hard ends, gouts, slubs, thick and thin places, etc., can be avoided for the subsequent processes by

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a careful tender.

Spring bottom sliver cans are also a help for the solid creel method, as they allow the cans to be nearer emptied than with the plain can, and I consider the spring bottom can a good investment for the card room on merely carded yarns; it is generally known that combed cotton almost requires this type of can as the fibers are so parallel that the sliver will be breaking continuously as it is lifted from the can over the lifting roll of the slubber. The spring bottom can keeps the sliver near the top of the can so the weight to be lifted is not as great as it would be if it were lifted from the lower part of the can.

Beyond this point, I am not so optimistic concerning the solid creeling idea.

On the slubbers, intermediates and subsequent fly frames that are used, there will always be some irregularity in the length of the roving on the bobbins due to ends being broken, and repaired breaks, singles and doubles that are made on every job and should be removed before they are sent to the spinning room.

Naturally we would expect evener yarns under this type of creeling but where the fly frame bobbins of roving have had from 25 to 40 yards of roving removed by one, two or three breaks while being filled, this will mean that the extra amount of roving waste will be great and will have to be reworked; and also these pieces that will invariably be coming from the fly frame, where will they be placed in order to be run? And the second question: What will be the disposal of the pieces that would be left on the spinning frame which could be made into yarn on account of the number of things that will cause bobbins to be broken back, such as the tapes or bands being broken, bad top rolls, improperly weighted rolls, worn ring flanges that often have to be replaced, etc.?

The breaking strength should be higher on this method of creeling, and with respect to the stretched roving, I venture to say that 80 per cent of the stretched roving will be found in the first five layers on the bobbin, anyway. In one instance that I know of, the overseer of carding was determined to eliminate this stretched roving as much as possible and had his fly frames doffed almost on the change, not allowing the carriage to move downward for about an inch as is customary in most cases. This would eliminate the possibility of stretched roving for about two inches up and down the barrel of the bobbin.

Another thing that will be perhaps interesting relative to the bobbins having to be turned down to size, would be a case of some frames I know where, due to a long usage of bobbins, and being cleaned on a bobbin cleaner, a slight amount had been removed in the diameter, and on each beginning of the doff it was necessary to take up a small amount of tension in order to have the ends run properly; so we finally resorted to the idea of not meshing the tension gears until after the first change had been made on the bobbin. This was done by leaving the knock-off lever down until the carriage started on the upward stroke after starting a new doff on the bobbins.

Similarly, an order was sent to a mill which called for no knots to be allowed to pass or gouts to let slip through the spooler guides, and the knots at the spooler were trimmed closely. The prevention was begun on the fly frame just preceding the spinning frame. Every end that came down was broken back and not run any more until the new doff was started. The creeling was done solidly, and at the end of the creel the frames were doffed and the pieces were run in the spinning room. Soon more than three times the number of pieces were on the ends of the fly frames than could be handled ordinarily. In the spinning room every end that came down, a new bobbin was started and still more pieces for the spooler tender (old style) to trim with a pair of scissors that were furnished her. Elimination of larger places was made almost entirely, but the additional cost of manufacturing was excessive. Though the order said "knotless sewing twine" and the product produced was as near to that as possible, I do not think a needle would have been broken from the variation of the twine that was made.

If some means could be provided to run these pieces, and the amount of re-workable waste was held down, I think that the solid creel idea would be acceptable, but no such means has been offered, so what have you?

J. R. (GA.)

A Fly Frame "Kink"

EDITOR COTTON:

I would like very much to start a discussion in your "HOW OTHER MEN MANAGE" department on troubles and their remedies such as we are confronted with from day to day. I believe that a practical discussion of this nature would be beneficial to every reader of this department because the trouble that I have today may be some other man's tomorrow, and very few of us are acquainted with all of the troubles that are hovering over us. Surely we can all help each other in some way.

There are troubles of most every description in the mill game, but at this writing, I am only referring to the practical ones that occur in process from time to time. I recall an instance that I shall never forget. I was having trouble with the intermediate roving breaking back in the speeder creels, say, once a week or every two weeks; on certain days when a full creel was set in, the roving strands would begin to slip off at the taper of the full bobbin and slide around the smallest diameter of the bobbin causing a severe strain on the delivered strand and in most cases the roving would be pulled apart.

After investigating the trouble I found that the roving guide rods on the bottom and middle row had been left out (when the frames were erected, for some reason) and I saw at a glance that the roving strands were not being pulled straight away from the bobbins as should have been the case. But then I asked myself, "Why is it that this roving shells off at the taper of the bobbin some days more than on other days?" From that time I would watch the build of the intermediate bobbin each day, thinking

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probably there was not enough taper of the bobbin, and the next time this trouble occurred it was on a hot windy day, and I noticed that the taper of the intermediate bobbin was not as smooth as usual and looked somewhat ragged. Then I knew I had found the trouble, so I changed my intermediate lay gear two teeth larger and from then on I would change the lay gears instead of the tension gears on damp or dry days and this eliminated the trouble.

I will say here for the benefit of those who are wondering why I did not adjust the speeder creels that the rods that supported the creel were too short for any readjustment.

On another occasion it so happened that while one of our fly frame tenders was lifting off the flyers to doff his frame, he pulled one of the spindle gear casings out of place and did not notice it until the frame had been started and the carriage had come down and wedged it so tight between the two rails that it seemed impossible to get it out without disconnecting the lay gear and running the carriage up off of it, which of course would have broken all of the ends at the flyer presser—and boy, oh boy, how I labored to get this casing out without breaking all of the ends down.

Then after I had thought it over, wouldn't it have been much easier just to have marked the position of the belt on the cone and let the rack out until the builder jaws were completely closed, then just one turn of the tumbler shaft and the carriage would have started upward again, then all that would have been necessary would have been winding the rack back to its marked position and starting up the frame and running the carriage up off of the casing. This could have been done in a minute or two without any exertion.

T. R. (N. C.)

A Finisher Says "Amen!"

EDITOR COTTON:

As an old time cloth finisher, I am very glad to see cloth room and finishing discussions in your magazine —especially what "CONTRIBUTOR No. 6255" had to say with reference to bow in cloth, or diagonal cloth from the loom, slack selvages, etc., on page 114 of the October issue of COTTON.

I have been up against these problems many times, and as most slasher men and overseers of weaving are not only experts (?) in their line, but in most cases are "professional finishers", it has been an up-hill pull to get results from their departments on account of "passing the buck"—this being on many occasions sustained by the higher-ups. "CONTRIBUTOR No. 6255" has given the facts, and tells where to look and not only look but where to find the trouble and apply the remedy. The cloth room man and finisher have troubles enough of their own, and without the hearty cooperation of all concerned, these departments are many times made the goat.

So I say to cloth room and finishing overseers, let us submit our problems and discuss them fully in the "HOW OTHER MEN MANAGE" department.

CONTRIBUTOR No. 6291.

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Comments on "Wash"--"A. T. G." Discussion

(EDITOR'S NOTE: *The several letters following, discussing the argument between "WASH" and "A. T. G. (S. C.)" with reference to "WASH'S" questions on carding, were of course written, following the appearance of the September issue of* COTTON, *but prior to the appearance of the subsequent discussion on this subject which appeared in the pages of the November issue. The whole affair started with the publication of some questions from "WASH". "A. T. G.", a textile graduate, answered these, quoting the questions in full, on page 78 of the August issue.*)

EDITOR COTTON:

I do not want to become a nuisance to the "HOW OTHER MEN MANAGE" department, but this scrap that "WASH" has got himself into is just too good to keep out of, and y hat is off in the air to "A. T. G. (S. C.)", for the way in which he answered "WASH" on page 78 of the August issue of COTTON. The way he handled "WASH" reminds me of the story concerning a meeting of veterans of the Union and Confederate armies. A Confederate soldier, walking the street, saw a fellow dressed in the Union uniform who was badly crippled. He had lost an eye, both arms and both feet. His hat was on the ground by his side. The Confederate soldier put a five dollar bill into the hat. The Union soldier was overcome, and said, "My friend, I appreciate your gift, especially since it comes from one who was once my enemy." The old rebel replied, "You are mistaken, suh! I didn't give the money charitably; it's in appreciation of seeing one dam Yankee marked to my personal satisfaction."

All of which I relate in the spirit of levity, yet I do appreciate the moral of the story.

Let me say, referring to "A. T. G.'s" article on page 78 of the August issue, that I agree 100 per cent with his answer to "WASH'S" first question, as to the causes of the picker lap being larger at one end than the other.

With reference to "WASH'S" second question, in which he asked, "On the card we have a very high speed doffer, and we are making a great amount of waste due to the webs at the front of the card breaking down continually. Is the cause in the comb setting, position, speed or what?" Perhaps "WASH" never knew what trouble electricity could and does cause, especially on dyed stock and more particularly on black.

The third question wanted to know what causes tight and slack webs between front drawing rolls and the calender rolls on a draw frame. If "WASH", who stated that "the real cause is when there is too much waste mixed with the raw stock", has the right idea for overcoming this evil, then he automatically admits his deficiency in being able to prepare a proper mix. My experience has been that a change of roll setting was resorted to only in case of a change in the staple, grade or character of cotton (weights being constant) radical compared to that for which the

SAVES 225 TONS OF COAL A YEAR

Morehead Back-to-Boiler System Paid for itself in one Winter In Plant of Everlastik, Inc.

"We saved 225 tons of coal a year on a boiler developing about 90 horsepower, so that the Morehead Back-to-Boiler System paid for itself in one Winter's operation." This is the report of Everlastik, Inc., Chelsea, Mass., makers of elastic fabric and webbing.

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"We estimate that production on the finishing machines has been increased from 10% to 15%. Our finishing machines were always a source of trouble. We eliminated the individual cut-off traps, and repiped the drips as per your instructions with the result that we no longer have leaky traps to contend with, and the MACHINES ARE ALWAYS HOT.

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"The Morehead System enabled us to make such a large saving on the water bill that the city water works wanted to install a new meter, as they could not understand why we were suddenly using so little water. In addition, we have been able to ELIMINATE BOTH our VACUUM PUMP on the heating system, and the FEED PUMP on the boilers, saving the upkeep on this equipment, including oiling, repairs and waste of steam. The cost of operating the Morehead Back-to-Boiler System is negligible, and it considerably reduces the cost of general plant maintenance."

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Two 16-inch, 8-ply, 70-foot Condor Compensated Belts delivering power to heavy duty main drives. These belts are endless and are reported to be giving "very satisfactory and efficient service." They operate at low tension and no take-up has been necessary to date.

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Condor Compensated Belts have eleven advantages over standard rubber belts. It is the only rubber belt that operates at low tension, has a 100% overload capacity, and may be increased with the aid of belt dressing if necessary.

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Have 100% Overload Capacity

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1. freedom from rupture in outside ply
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5. freedom from bearing, shafting, and hanger troubles
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7. double the overload capacity at rated horsepower
8. freedom from wear on pulley side
9. higher efficiency on small pulleys
10. only rubber belt that responds to dressing
11. material reduction in belting "costs"

The unusual and practical design of Condor Compensated belts gives low tension operation with high overload capacity. Belt speeds up to 5000 f. p. m. over small pulleys are practical.

Ply stresses in Condor Compensated are equalized by virtue of its design. Fasteners hold 300 to 400% longer than in standard rubber belt. Water and moisture do not affect the efficient operation of this belt.

THE MANHATTAN RUBBER MFG. DIVISION
OF RAYBESTOS-MANHATTAN, INC.
EXECUTIVE OFFICES AND FACTORIES, PASSAIC, NEW JERSEY

machine was already set up. Two men might be able to set up the rolls on a four-delivery frame in a half hour, while one man could change the tension gear in two minutes—why waste time? Perhaps proper weighting of the rolls might have something to do with the condition. An article on "Lever Weighting on Draw Frames"—published on page 82 of the September issue—might throw some light on this subject.

I do not agree with what "WASH" says about the draft between the leather roll and the calender roll being less than one.

If "WASH" is right in answering his fourth question, then Houdini was a piker, and "WASH" should be reaping a golden harvest. What a man! What a man! He said, in telling how he changed the taper without changing the taper gears: "On the English builder or latch builder, in order to change the taper without changing the taper gear, you must make a mark on the center of a bobbin; next, run the carriage so the center of the eye of the presser pad will be on the mark on the bobbin; next level the poker bar; next, if you wish to increase the taper, shorten the poker bar. Next, raise the latch screws and run the carriage and set to the length of the layer desired."

I say again: What a man!

Tell "A. T. G." that I think "WASH" is too "easy", and not to suggest "WASH'S" being ade the czar of textiles any more. We have enough trouble in the textile business without having to listen to a lot of fantastical bunko. Then too, should "WASH" become the sage of textiles his present organization would suffer an irreparable loss.

I too have had practical experience and some technical training and I have some very good friends among the graduates who are making good. Some of them have traded experience with me and I don't think any of us were cheated.

CONTRIBUTOR No. 6123.

EDITOR COTTON:

On page 78 of the August issue of COTTON "A. T. G. (S. C.)" gives "WASH" a few knocks on the head, which he well deserves, and although I agree with "A. T. G." in most things, I wish to correct him in his discussion of the fourth question, which is: "On a fly frame we have a taper of 27 degrees that causes the roving to run over and under. We have no taper gears on hand to change the taper, but must remedy the trouble, how is this done?"

Now, in answering this question, "A. T. G." claims that shortening the poker bar will not increase the taper. He is wrong in this statement, because if you start the poker bar on a fly frame two inches shorter than it was before, it positively will make a difference in the shape of the bobbin. I make this statement because I have changed the taper on hundreds of occasions and am certain of this fact. But, if a fly frame has been running satisfactorily for years, and it suddenly begins to run over and under, I would not allow the taper to be disturbed. I would insist on finding the real cause, which is usually worn out latches or twin gears out of adjustment.

I am a practical man and have also attended tex-

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3
Improves Quality of product

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If room temperatures in your mill are "controlled" by hand or by worn-out obsolete controls don't be surprised if you find temperature fluctuations of 5 to 15 F. above or below the proper point. By stabilizing room temperature in each department POWERS *automatic* control will immediately help you to gain the valuable advantages listed above. May we submit an estimate? There's no obligation.

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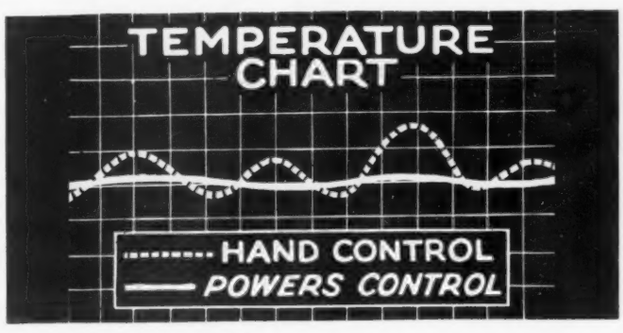

OK 100 years ago

but NOT TODAY!

Hand mopping in an attempt to clean mill floors is a waste of time and labor . . just as would be hand spinning or weaving in an attempt to produce goods.

The way to clean floors effectively and economically is to scrub or polish a *room at a time* . . with scrubbing or polishing machines as up to date as the latest spinning frame or weaving loom.

The *Finnell* shown here is just one of eight *Finnell* models. This one is especially popular among textile mills because it scrubs the floor and also *picks up the water* in the same operation, leaving the floor clean and dry. There's no chance for bobbin boys to track it up while still wet . . reduced likelihood of workers slipping on a wet floor.

DEMONSTRATION FREE. Wherever you are, whatever the size of your mill, there is a *Finnell* that will serve you by saving time and money . . and a *Finnell* representative who will gladly show you how. Write or wire *Finnell System, Inc.*, 1312 East Street, Elkhart, Indiana. Canadian Distributors: Dustbane Products, Ltd., 207 Sparks Street, Ottawa, Ontario.

2 IN 1

The Finnell Combination. The machine that makes mopping an extravagance.

FINNELL

EST. 1906

ELECTRIC FLOOR SCRUBBER—POLISHER

tile school. I agree with "A. T. G." that both are essential to the textile business.

K. Y. (MASS.)

EDITOR COTTON:

On page 83 of the July issue of COTTON "WASH" has a question "which will floor the textile school graduate and is a hard one for the practical man to answer." The question is: "On a fly frame every little while the ends slacken and pick up again, but in most every case a few ends break down." Now, as "WASH" says, when this occurs the first thing a practical man would do is to look for slippage at the cones. With all gears and keys in good condition and no slippage, it surely is a problem to answer without seeing the frame.

When a frame acts as this does, the place to look would be around the cones, but, "WASH" says these are in perfect condition, then the trouble lies elsewhere. Now that "WASH" has asked this question I trust he will favor us with the answer in an early issue of COTTON.

Here is what I would say would cause this trouble. If on a frame with the English type builder, the dogs are set so as to shift the cone belt more on one change than the other, this will cause the ends to slacken on the change where the movement of the belt is the larger. Quite often this happens when the rack gear is changed only one tooth and the dogs are not set evenly. In most cases it is best to change the rack gear an even number of teeth. This of course is on the English type builder and not the American type.

CONTRIBUTOR No. 6288.

"Weavers in the Back Alleys"

EDITOR COTTON:

As "CONTRIBUTOR No. 6234" desires to see more discussion with reference to how much weavers should watch the back alleys, the following advice may be somewhat helpful. It is really a matter of good judgment.

On fine work where the yarns are especially well-made, also excellently prepared for weaving, weavers on certain high grade goods may operate an average of one hundred looms. In such cases there is so little interruption from yarn imperfections, that it is unnecessary to watch the back of the looms so much. It is more important to watch the front of the looms. But on coarser goods, where the yarns are not combed, there is likely to be so many more imperfections in the yarn, that it is important to watch the back of the looms more than the front of the looms.

Combined fine yarns are made of such good stock and are so well-prepared for weaving, that there are not many casualties started at the back of the loom. On such high grade work, the weaver has more to do at the front of the loom than at the back.

Some mills have used two important helps which greatly facilitate and expedite a weaver's work and speed. One is to place one or two mirrors in such a position at the back of each loom, that the weaver can see the entire bank of warp ends from the front of the loom. This enables the weaver to see what

is going on before the ends reach the harnesses and to arrest irregularities. It also conserves the weaver's energy by preventing much needless walking.

The other thing is to place a black board directly beneath the warp ends. This contrast enables the weaver to discover more rapidly what yarn irregularities may cause trouble ahead.

H. D. M. (R. I.)

Some Remarks on Card Room Methods

EDITOR COTTON:

In connection with your "HOW OTHER MEN MANAGE" department, I am wondering why so few of your contributors see fit to mention the grinder as an important factor in the carding department. Personally, I think it requires the ear and touch of an artist to become a good card grinder.

The following are some statements of a very successful grinder.

Cards are somewhat like babies, all alike when new, but as they grow old they seem to develop individual characteristics; in fact, most grinders have one or two cards on their respective sections which they are pleased to dub "Old Betsy" or some other nickname because of their seemingly contrary disposition, or I might say their failure to respond to what are considered to be practical methods.

If a grinder cannot overcome the defects in the carding, it is better to do the job oneself, as it is impossible for one man to tell another how to grind and set cards. Oh yes, we could give him some points to work from just as you can tell a man how to drive an automobile or paint a picture, but to get actual results, the grinder must have the ability to ferret out and overcome the thousands of little faults to which the card is heir.

I know many grinders who are expert in getting results from the cards but very few of them have the ability to explain what is necessary to get such results; in fact many of these grinders have subconsciously originated and are using many little tricks and methods of great importance of which they themselves are not aware.

A card operates in an entirely different position from that which it holds while it is being set or gauged; therefore, a grinder must possess some sort of sixth sense to be able to set a card to a 7/1000-gauge, as is often stated.

There can be no fixed rule of settings for cards; the very fact that each writer offers a different schedule is proof enough of this statement.

A card, even a new one with new clothing, cannot be put in proper condition with one grinding and setting. It must be ground, set and worked a number of times before it can be brought up to the nearest point to perfection.

It usually requires about three months' time and several grindings and settings for a good grinder to put an ordinary section of cards in good shape after some jackleg has let them run down. I have known an expert grinder to grind and set an obstinate card two or three times before he was able to determine all of the causes for its failure to operate efficiently.

The BUYER'S Column

The Value of Doing Business With a Well Established Firm

by Blackie

IT is decidedly to the advantage of the buyer to do business with a well established, financially strong company because:

1st: He usually obtains the best that science, brains, and money can produce; as a concern with ample resources is not handicapped in their experimentation, production, testing, and shipping methods. They can have the latest in everything.

2nd: He can, in most cases, receive prompt deliveries; as such a firm has the capital with which to carry the stock or have the surplus equipment with which to produce it.

3rd: He has the best specialists with whom to consult, since they have the money and the business to justify the employment of such talent.

4th: He has an assured, satisfactory and *constant* source of supply—not out of business when repairs or an adjustment are wanted.

The Steel Heddle Mfg. Co. has two modern plants—one at Philadelphia, Pa., and one at Greenville, S. C.—scores of specialized men—research laboratories which have been solving the harness problems and supplying the needs for the textile mills for over a generation.

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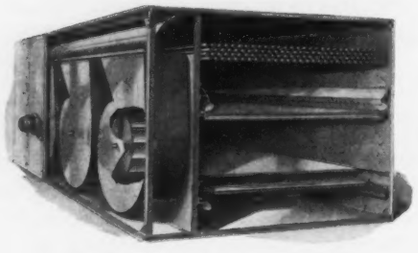
In 1923, it revolutionized the drying of wool stock, cotton, linters, rayon waste, silk waste, etc. . . . setting a new standard of design, performance, economy of operation.

Since then . . . for 10 years . . . it has outshone and outsold all other dryers for the purpose. More important, it has itself steadily improved.

In 1933, with direct motor drives, variable speed control, hinged-girt conveyors with traveling side guards, increased insulation of panels and framework, leak-free steam heaters, intensified air-circulation, all-metal feed, and improved details throughout, the Proctor Dryer is higher than ever above comparison. It best meets today's needs of maximum hourly output, minimum cost of drying operation, dependability that means uninterrupted working schedules.

And remember, Proctor high capacity ratings are based on performance facts repeatedly demonstrated, and guaranteed in full measure for your own plant. Write now for complete acquaintance facts.



PROCTOR & SCHWARTZ, INC
PHILADELPHIA

Regardless of the orders from the carder or superintendent, you will find that most grinders are setting their cards according to their own ideas.

You will often find one grinder setting closer with a 12/1000- gauge than another is setting with a 10/1000- gauge. Most grinders use two gauges for each setting, one is used for a feeler and a thinner or finer one for safety.

A card is not naturally a cleaning process. Its purpose is to separate the cotton, fiber from fiber, and deliver it to the doffer in an even web. When this has been accomplished you will find the card removing the greatest quantity of foreign matter and the least amount of long staple.

The greater the quantity of flyings thrown off by the card, the less foreign matter will be removed.

If any part of a card is set for the purpose of removing a greater quantity of short fiber, the long fibers removed will be increased in a larger proportion.

The neps found in card sliver are of two distinct types; one is composed of a small wad of cotton coiled and matted around a piece of seed which was clipped or torn off by the gin and allowed to pass through the opening, cleaning and carding without being disturbed further than to be rolled into a more compact wad; the other is all fiber and is made by a dull or overworked gin or a dull, faced, hooked or loaded card—the latter is also caused by carding cotton containing too much moisture or operating cards under too high a relative humidity.

If possible, the relative humidity around the cards should not be allowed to go higher than 60 per cent, and cotton should not be carded while containing more than 10 per cent moisture.

Any card will make neps in wet weather or when carding wet cotton.

When clothing cards, the clothing should never be given its full stretch the first time it is drawn.

Ordinary clothing should be drawn on at about 250 to 300 pounds and let stand overnight or about 12 to 24 hours and then re-drawn at about 325 to 375 pounds.

Clothing put on with too much tension will break down and become dead; the holes where the wire passes through the foundation of the clothing will become oblong and the wire flop back and forth as if on a hinge.

Recently I heard a carder remark that his top flats were all set to a 7/1000-gauge. How can this be, when you consider that the flexible bend which is the support of the top flats is so constructed as to conform with the circle formed by the base of the top flat clothing, when both the cylinder and top flat clothing are new, and, as the flats and cylinders are ground from time to time the wires become shorter, thus making a new or smaller circle necessary? And since the flexible bend cannot be drawn down to conform perfectly with this new circle, about the best that can be expected is to set the tops to a 7/1000-gauge at the back top and front, while a 10/1000- or 12/1000-gauge can be inserted at all other points.

Another carder said he sets the feed plates closer for a light lap and short draft than he does for a

heavy lap and long draft He did not explain why. I also fail to see the reason for this, as it seems to me that the same amount of cotton must pass between the feed plate and licker-in in the same period of time in each case, if the sliver is to remain the same.

The foregoing statements may or may not be correct, however, I prefer the judgment of the grinders as to their merits.

CONTRIBUTOR No. 6276.

Causes of Button-Hole Selvages

If any weaver has further suggestions to offer on this subject, they will be welcome . . . .

EDITOR COTTON:

I notice that in the May issue of COTTON "CONTRIBUTOR No. 6163" reported that he is having trouble with "buttonholes" in the selvage of cloth, and I also see that you have published in subsequent issues several answers to his problem.

Inasmuch as I have had some experience with buttonholes in selvages and have always found what to do to overcome the trouble, although the condition of the loom or the trouble causing the buttonholes is not always the same on all looms—I would like to discuss this.

There are several things that will cause the filling to break near the selvage and make what we call buttonholes. One might find this defect on either side of the cloth, but very seldom on both sides of the same cloth. We know that if the filling is tender it will break quicker if there is any undue tension or friction placed on it, so we can say that tender filling would contribute to this defect. The settings on the loom not being right—which causes extra tension on the filling—is the only other thing that will cause buttonholes, and there are several different settings which will cause this if they are not correct.

One might ask why it is we do not have buttonholes continuously in the cloth. The reason is that there is more tension on the filling as the bobbin runs down low or as the filling comes off of the large part of the bobbin, which draws the filling tight in the cloth, making more contraction at the fell of the cloth, then when the reed comes to the front, beating up the filling, the filling is very tight and therefore breaks. Therefore, most buttonholes are made just before the bobbin runs out, so one should be sure to keep the bobbin true in the shuttle.

Another thing that will cause this same trouble, even if the bobbin is right in the shuttle, is the timing of the harness, or that has been my experience on light sley goods. If the harness is timed early it will cause the sheds to close on the filling before the shuttle has had time to reach the opposite end of the loom and the filling has had time to get slack for the full width of the cloth. So when the lay or reed comes to the front the filling is very tight and will break at the selvage. If the harness is timed late, the harness will not close on the filling while it is tight and the filling will not break. Another thing is that if the loom is picking late it will cause the

The Story of Cotton

This is the fourth of a series of advertisements telling the story of cotton from its earliest cultivation in India and Peru to present times.

IV. THE ENGLISH COLONIES OF NORTH AMERICA

During the Eighteenth Century the beginning of factory production of cotton fabrics was necessarily an incentive to efforts to produce the commodity in marketable quantities in what Englishmen considered the mild climate of the now United States. But cotton, i.e., the long staple varieties of Peru and other Spanish colonies, was not hardy enough for more northerly climates; and in the development of varieties which would grow in the Carolinas and Virginia, the staple became shorter and the fibres clung so tightly to the seed that the roller gin of India and the easy hand picking methods of Peru were ineffective. The new cottons had to be plucked, fibre by fibre, from the seed; the process was tedious, and the resulting quantity of cotton negligible. Only the small amount of cotton produced on the Sea Islands of the Carolina coast could be processed by other methods.

Nevertheless, the plant persisted, and the colonies were encouraged to plant it. The first governor of South Carolina was ordered to accept cotton as rent from the proprietary lands of the colony, at a fixed price of 7c per pound. And nearly every settler in the southern colonies planted a small patch in his garden for home use. When the cotton was picked in the fall, it was stored in attic or loft, and all during the winter the family "ginned" the crop by hand. Slaves were used for this work on the larger holdings, and the negro who could obtain a shoeful of lint cotton in a night's work was considered to be better than average.

Cotton, however, was extensively used for clothing in the colonies, as in the mother country. The frontier woman mixed cotton with the wool she spun and wove; and in 1751, Benjamin Franklin advertised for a dress which had been stolen from his wife: ". . . a woman's dress of printed cotton of the sort called brocade print, very remarkable, the ground dark, with large red roses, and other large and yellow flowers, with blue in some of the flowers, with many green leaves, etc."

The difficulties of processing encountered made it almost impossible for the colonists to produce an exportable surplus of cotton, but 127,500 pounds were shipped abroad in 1789 and in 1790 the total commercial crop was set at 3138 bales, of which 379 were exported. In 1788, Richard Leake of Savannah experimented with eight acres of a new staple, and the cotton he developed became the progenitor of the well known American upland staple.

Thus cotton gained a precarious foothold in North America. Its firm establishment depended on better methods of processing the raw commodity. With a world-wide demand for the product, it was a foregone conclusion that Yankee ingenuity would find some way to process the crop. And so it did. But that is another story.

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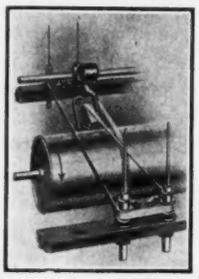

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Manufacturers and Rebuilders of Spinning Cylinders, Card Screens and Drying Cans.

TWIST-SETTER
CONDITIONING MACHINES
MOST EFFICIENT
MOST SIMPLE
LEAST EXPENSIVE
WRITE
BOWERS AND BARKSDALE
BOX 18 STATION E
ATLANTA, GA.

shed to close on the filling while it is drawn tight, and cause the trouble.

CONTRIBUTOR No. 6213.

EDITOR COTTON:

I would like to discuss the question of "CONTRIBUTOR No. 6163", who asks what causes buttonholes in the selvage, and says, "One man told me that it was tender filling (41s)." I am wondering what he would do if he had 100s filling on 98x100, 60s warp 40-inch cloth width, 42 inches in the reed.

One cause of buttonholes in the selvage is the setting or timing of the harness. If the harness are level when the reed is about 2½ inches from the cloth this may cause buttonholes. The remedy in this case would be to loosen the harness cams and bring the reed up to one inch from the cloth and then tighten the cams.

Another cause of buttonholes is that two or three of the outside threads of the selvage will roll together through the action of the shuttle and the filling rolling the outside threads and forming them into a small cable cord, which cuts the filling. The remedy for this would be to separate the threads in the last dent so that there would be two in each of the last two dents instead of four in the last or outside dent.

Another cause of buttonholes is having the temple too far back, that is, when the reed comes up and pushes the last pick of filling against the former pick of filling, the temple should be just clear of the reed, or close enough but not so close that the reed hits the temple. There is what is called a heel on the temple, and on ordinary cloths the lay strikes this heel forcing the temple back from ¼ to ½-inch when the reed comes up. In the present case it would be well to not have more than ½-inch vibration of the temple. This is controlled either by a movable heel or by changing the leather which is on the lay for the purpose of striking the heel of the temple.

Another cause of buttonholes is weaving the cloth too loose, that is, not having enough weight or tension on the warp beam.

Still another one is having the shed too large. This can be caused by having the stirrups too near the end of the treadles, thus giving too large a sweep to the harness. The remedy for this is to move the stirrups back to a point on the treadles which will cause the harness to make the shed large enough for the shuttle to have enough clearance to pass through and no more.

Another cause of buttonholes is having the top roller turned around, that is, having the large ball operate the front harness and the small ball operate the back harness, which, as all fixers know, is wrong; yet sometimes I have found this to be the case. Just why, I do not know except that the fixer was not thinking how it should go when he was replacing it.

Warped filling bobbins is another cause, bobbins which have become bent, this happening when the filling is steamed or sprayed with water. When a crooked bobbin gets in the shuttle and the filling is pulling from the nose of the bobbin, which is off to one side of the center of the shuttle eye, or is pointing above or below the shuttle eye, it will increase

November 3, 1886

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Instead of checking friction by dependable lubrication—*wasteful liquid oil drips and leaks from bearings* onto goods causing a heavy loss from oil stained "seconds". Add the loss caused by need of frequent application and you'll see how liquid oil steals profits.

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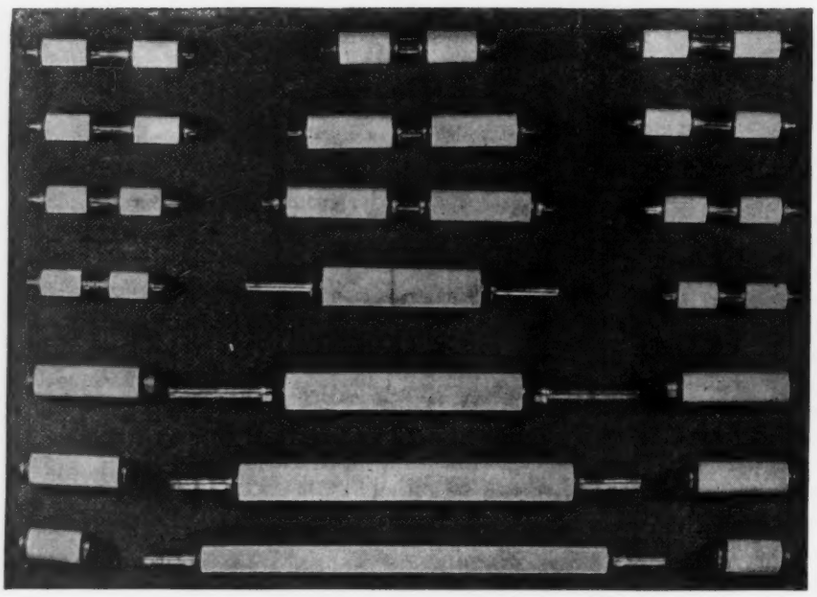

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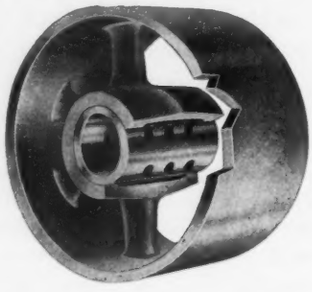

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the tension so much that it will pull too much on the selvage and break.

Another cause of buttonholes is that the filling in its course through the shuttle eye has a tendency to accumulate lint at the point where the filling thread forms an angle to come through the eye at the side of the shuttle (especially if it is carded yarn). This will get so large that it will increase the friction tension a great deal and eventually get so large that it will break the filling thread; then the weaver or fixer is likely to find it and remove it.

J. L. (R. I.)

Cleaning Ring Rails

EDITOR COTTON:

Replying to your subscriber's query on page 74 of the October issue, as to the best solution to use in washing ring rails and method of drying them, please be advised that due to the general abandonment of such practice in cleaning ring rails this writer is unable to furnish the explicit information requested.

Several years ago it was common practice to boil the rings, holders, and rails, assembled, in a trough into which a solution of lye or caustic soda had been poured. The rails were then wiped off with waste as soon as they were cool enough to handle.

However, such treatment was likely to cause rusting of the rings, particularly on the flange not in use, so that other methods have supplanted the washing or boiling one.

We know one spinner who periodically cleans his rings and rails with gasoline. He admits that for a few days thereafter the rings run hard. This is not surprising for gasoline or kerosene induce rapid rusting and roughening and of all the methods of cleaning rings and rails we consider this the worst.

The best thing to come to our attention to date is a little air turbine, about six inches in diameter, made by the mechanic of a certain mill. This was equipped with a shaft on which rags were packed or tightened. Hooking this turbine onto the air system in the mill gave a speed of about 2,000 r.p.m., and the rag wheel was run through each ring as the rails were lying inverted on a box. This cleaned them and also made a gentle polishing operation, and in no way damaged the rings.

Few mechanics are ingenious enough to design such a turbine but most mills have electric drills to which the rag wheel can be fastened, and while this would not have as high velocity as the air turbine the speed should suffice for the job. Of course after cleaning the rings, while assembled in the rails, running the wheel or brush lengthwise of the rails would complete the cleaning job.

This reply has been concerned with spinning rings and rails, or with dry twister installations. Some information along this line is contained in articles on the spinning ring and on the twister ring which appeared in COTTON a year or so ago.

CONTRIBUTOR No. 6270.

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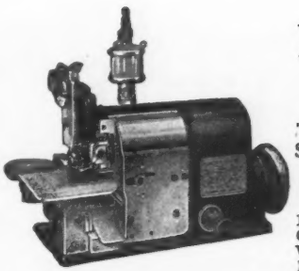

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The booklets or catalogs briefly mentioned below may be obtained by any readers of COTTON who will write to the Company issuing them or to COTTON, Grant Bldg., Atlanta, Ga.

2. Pepperell Equipment—10 page illustrated booklet showing High Speed Warping from cones as adopted by Pepperell Manufacturing Company after thorough experiments, installation and product photographs. Issued by Universal Winding Company, Boston, Mass.

4. New Methods of Opening Cotton, also "Brown" Automatic Mixing and Cleaning Distributor — Illustrated booklets showing advantages of Centrif-Air Cotton Cleaning System. Pamphlets also on better picking and carding and pneumatic trunk line cleaner. Issued by Centrif-Air Machine Company, Atlanta, Ga.

10. Leathers, Textile—Booklet No. 101, 48 pages. Illustrated. Showing "Bondaron" Check Straps—Lug Straps—Harness Straps—Pickers—Belting, both round and flat, etc. Horsepower tables and other interesting information. By Charles Bond Company, 617 Arch Street, Philadelphia, Pa.

11. Whitinsville Rings—16 page illustrated booklet, describing ring manufacture, measurements, types, uses. How to determine flange sizes. By Whitinsville Spinning Ring Co. Whitinsville Mass.

15. The Powers System of Thermostatic Control — "Slasher Room is Bottle-Neck of Textile Mill." 18 page illustrated booklet showing importance of proper treatment of cloth in slasher room and advantages of Thermostat over hand control. Also room temperature control illustrations. Issued by Powers Regulator Co. 2739 Greenview Ave., Chicago, Ill.

21. Warp Sizing and Composition of Cotton—Folder containing reprints of articles carried by textile publications of interest to progressive mill superintendents. By Seydel-Wooley Co., 748 Rice St., Atlanta, Ga.

23. Practice of Rayon Sizing in American Mills, Raygomm, Lakoe Gum—Three booklets on products for sizing and finishing rayon and other textiles, presented by Stein Hall & Co., Inc., 285 Madison Ave., New York, N. Y.

25. "Lupogum" and "Monopole Oil"—Two booklets on textile sizing and finishing products. Jacques Wolf & Company, Passaic, N. J.

28. Akron Belting—Practical Rules and general information for users of belting with belting catalog. By Akron Belting Co., Akron, Ohio.

29. Continuous Card Stripper—A 20 page booklet describing in detail continuous card strippers, their advantages, the power required to operate, etc. Saco-Lowell Shops. 147 Milk St., Boston, Mass.

30. Lubrication of Textile Machinery—32 pages, illustrated. Data covering the economical lubrication of all textile machines. New York and New Jersey Lubricant Co., 292 Madison Ave., New York, N. Y.

38. Sleaziness in Full Fashioned Knitting—Illustrated survey with samples of fabric showing causes of sleaziness and methods to be employed in eliminating it.—By Textile Machine Works, Reading Pa. (This company also issues parts catalog for Reading full fashioned machine with general information on subject of full fashioned knitting.)

62. Rubber Products for the Textile Industry—A 40 page booklet giving a wealth of information on the proper selection, installation and operation of rubber belts, together with charts showing horsepower rating, pulley sizes, V-belt sizes, also information on all types of hose and rubber covered rolls used in the textile industry. Manhattan Rubber Mfg. Division of Raybestos-Manhattan Inc., Passaic, N. J.

63. S-W Paint Standardization Plan—valuable booklet telling how protective coatings can effect economies in plant operation and maintenance, describing how each surface is finished to best meet its specific needs, giving ideal lighting and sanitary conditions and economies in increased production. Sherwin-Williams Co., 601 Canal Rd., Cleveland, Ohio.

64. Efficiency and Performance of SKF Roller Bearing Spindles — A twelve page booklet showing the advantages in power consumption, increased production, savings in lubrication, increased yarn breakage strength to be secured through roller bearing spindles. SKF Industries, Inc., 40 East 34th St., New York, N. Y.

65. Why Cooper Hewitt Light is Better Than Daylight — A 16 page booklet explaining in detail the importance of good lighting and the necessity of proper quality as well as proper quantity of light. General Elec. Vapor Lamp Co., Hoboken, N. J.

66. Dronsfield's Patent Portable Auto-Feed Needle Point Grinder No. 176—describing a new departure in card grinding—John Hetherington & Sons, Inc., 250 Devonshire St., Boston, Mass.

69. Monel Metal Equipment for the Textile Industry—A 50-page buyer's guide and catalog with more than 100 illustrations of various items of monel metal dyehouse equipment. International Nickel Company, Inc., 67 Wall St., New York, N. Y.

70. Fafnir Ball Bearings for One-Process Pickers—outlining the advantages of ball bearings in guaranteeing smooth, accurate motion particularly on eveners, as well as uninterrupted production, ease of operation and cleanliness of bearing units throughout the one-process pickers. Fafnir Bearing Company, New Britain, Conn.

72. The Merrow Butted Seam—A 16-page booklet defining and illustrating the Butted seam, describing its properties and outlining some of the advantages to be gained by its use in textile fabrics. The Merrow Machine Co., Hartford, Conn.

73. New Reeves Catalog No. 99—A treatise on efficiency speed control—including valuable information of special importance to textile industry men and production executives outlining advanced methods of speed regulation. Reeves Pulley Company, Columbus, Indiana.

75. The Facts About Armstrong's Seamless Cork Cots — A helpful book containing plain facts, cost studies based on actual mill records, expert analysis, complete details on the advantages of Armstrong's Seamless Cork Cots. Armstrong Cork & Insulation Co., 923 Arch Street, Lancaster, Pa.

78. Booklet L 1289 A—Loom Motors and Control—giving details of the low installation, operating and maintenance cost of Westinghouse Loom Motors. Westinghouse Electric & Manufacturing Company, Room 2 N. East Pittsburgh, Pa.

88. Dayton Cog Belt Catalog—A 32 page booklet full of vital information on power drives, plainly and simply assembled and arranged so that anyone can select the proper standard drive for any condition. It also provides data for the calculation of drives where acquired. The Dayton Rubber Mfg. Co., Dept. C-11, Dayton, Ohio.

90. Atwood Booklet—Describing Atwood Winders, twisters, wire swifts, and various types of feed rolls—useful to throwsters interested in learning the principal features of various Atwood machines. Atwood Machine Co., Stonington, Conn.

92—Silicates of Soda—A review of the properties of silicates of soda and their various uses. Philadelphia Quartz Co., 121 S. Third St., Philadelphia, Pa.

95. Onyx Processing and Finishing Compound Catalog — A thirty-two page booklet listing and describing entire line of processing and finishing compounds, covering every process on all types of fabric. Onyx Oil & Chemical Co., 15 Exchange Place, Jersey City, N. J.

96. R. & H. Non-Flammable Solvents—describing the characteristics and many uses of non-flammable solvents. R. & H. Chemicals Dept., E. I. duPont deNemours & Co., Wilmington, Del.

97. Suggestions For The Modern Silk and Rayon Throwster — describing the various uses for Laurel Brand Products and giving valuable suggestions in silk-soaking, degumming, dyeing, sizing and finishing. Laurel Soap Mfg. Co., Inc., Tiogo, Thompson & Almond Sts., Philadelphia, Pa.

99. Bulletin 177, Temperature Controllers. 48 page booklet describing and illustrating the various types of controllers, charts, valves, etc., and their industrial uses. Foxboro Co., Foxboro, Mass.

104. Warp Sizing. National Oil Products Co., Harrison, N. J.

105. Mildew Prevention. National Oil Products Co., Harrison, N. J.

106. Cotton System Warp Sizing on Multiple Cylinder Machines—a folder showing the advantages of this type of machine in making warps of acetate and other synthetic yarns and spun silk — Charles B. Johnson, Paterson, N. J.

107. Complete Information on Alemite Lubrication. Showing how costs can be reduced through proper lubrication. Alemite Corp., 1828 Diversey Blvd., Chicago, Ill.

110. 3-In-One for Industrial Uses—showing the many industrial uses and advantages of this oil. Three-In-One Oil Co., 70 Varick St., New York, N. Y.

111. Roll Spacing Determinator—showing and describing this machine for cotton mills which eliminates the problem of roll setting to the mill man and determines by mechanical means the exact spacing considering staple, character, size and twist. The Belger Co., 36 Pleasant St., Watertown, Mass.

114. Denman Parts for All Makes of Looms—showing drawings and dimensions of Denman pickers, hold-ups, bumpers, and bunters made of fabric and vulcanized rubber. Denman Tire & Rubber Co., Warren, Ohio.

115. How to Cut Cloth Room Costs with Automatic Picking Machines and Improved Inspecting Machines—Hermas Machine Company, Warburton Ave., Hawthorne, N. J.

116. Arcy—Telling in an interesting way the story of Arcy, which completely liquefies ordinary thick boiling pearl starch, and its many advantages. Drake Corporation, Norfolk, Va.

117. Anti-Friction Bearings as Applied to Spinning, Drawing and Twisting Frames—This bulletin shows with detailed drawings how a simplified design of roller bearing applications is made to replace the plain babbitt bearings and lists the advantages that are gained. It deals primarily with better continuous production and in consequence freedom from equipment care and repairs. Hyatt Roller Bearing Co., P. O. Box 476, Newark, N. J.

118. Cotton Picking, Opening and Cleaning Machinery, Cards, Combers, Roving, Drawing, Spinning, Twisting, Rings, Worsted Machinery and Woolen Machinery — Pamphlets are issued on each of the individual machines. In writing indicate special pamphlets desired. Whitin Machine Works, Whitinsville, Mass.

119. The World's Finest Sewing Machines—a condensed catalog giving details of the various Willcox & Gibbs sewing machines. Willcox & Gibbs Sewing Machine Co., 658 Broadway, New York, N. Y.

120. Goodyear Mechanical Rubber Goods Catalog—40 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill. Goodyear Tire & Rubber Co., Akron, Ohio.

121. Engineered Packages for the Textile, Dry-Goods and Apparel Industries—Showing the savings to be made through the use of properly engineered packages of corrugated fibre in the shipping of yarn, woven and knitted products. Hinde & Dauch Paper Co., Sandusky, Ohio.

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What Will Be the Developments in Full-Fashioned Equipment?

DEVELOPMENT of full-fashioned hosiery machinery has become so rapid in response to keener competition among both machine builders and manufacturers of hosiery that it is questioned by some of the latter whether it is profitable or economically practical to operate equipment that may have paid for its depreciation and besides leaves the owner with a substantial margin over cost and upkeep.

A manufacturer of a range of hosiery from 42-gauge to 51-gauge fitting into a half dozen price brackets, commenting on a proposal that 39-gauge equipment be eliminated and replacement effected with an eye single to better types of hosiery at somewhat higher prices, said he believed that is being done gradually by some mills which in only recent years entered the fine gauge field. At first blush, he suggested, it would appear that hosiery can be knitted on old 39-gauge equipment at low cost simply for the reason depreciation has been written off. This may or may not be a correct deduction, he goes on.

Upkeep of some of the very old machines is so great—and likely to be overlooked—that their product costs the owner as much as that from modern 42-gauge machines and usually will not yield as good a return. "I note," the manufacturer continued, "that there is a difference in the present market of at least 75 cents a dozen in the prices of standard 42-gauge and average 39-gauge. I think many of the 42s are speedier and of more sections per frame than the later models of 39. If I am correct in this conjecture, then the 42- is the better proposition from the standpoint of low price hosiery for a large element that cannot be expected to at once accept the finer gauge stockings."

Asked for his thought on scrapping machines that are crippled by long use, the manufacturer said he would not be surprised if the hosiery code were so amended as to provide for the complete demolition of all 39-gauge machines of a given age or record for output. A recommendation to that effect, even though it were not at once adopted, would be a wholesome thing for the full-fashioned industry, he thought. "A plan might be evolved for maintaining a curb on production of hosiery through a gradual reduction in potential output as old equipment were replaced with modern machines, until production shows a better balance with demand than under our go-as-you-please policy. I think organizations of manufacturers should be able to bring something of that kind about and encourage new installation as conditions improve."

From fragmentary information obtained among manufacturers of machinery and of hosiery, it seems a great deal of new equipment will have gone into American full-fashioned hosiery mills during 1933, and that some machinery has been purchased for installation in 1934. It is figured that, as indicated by leading department store specifications, 45- and 51-gauge machines are being given preference, with 48-gauge regarded by some observant factors as not essential in plants having 45- and 51-gauge machines and finer. There is some interest in 42-gauge in down-to-the-minute models.

Since a broader interest has developed in 51-gauge five thread silk stockings, equipment of this type is said to be receiving increasing attention for its flexibility, adapted to a medium service weight, in five-thread silk, and semi-sheer in three-thread. The five-thread is exploited as possessing the merit of fineness and service, and a likely number for establishing a higher price range.

John Bromley, who some weeks ago bought the Berger Hosiery Mill in Philadelphia, which had been supplying the Berger chain of hosiery specialty shops, has installed nine 45-gauge Reading machines, which increases the equipment to a total of 26 machines of 45-gauge, 24-section leggers and 28-section footers. The new installation was completed last month, when, Mr. Bromley stated, business in hosiery was quiet but that he believed he would have need for the added equipment. Mr. Bromley, at the time he purchased the Berger plant, was already an important factor in the Philadelphia full-fashioned hosiery industry, being heavily interested in the Quaker Hosiery Co., the Rodgers Hosiery Co. and the Windsor Mills, Inc.

It was believed in Philadelphia hosiery circles that Mr. Bromley, in adding machinery leaned to the theory that in times of adversity it is well to prepare for prosperity. Besides, it is pointed out, there is seen a strong probability that limitation of installation, not yet provided for in the hosiery and the underwear codes, will eventually be embraced in both. This possibility is regarded the explanation for considerable new installation this year and provision for more in 1934.

The hosiery fair competition code in particular seems a ripe subject for amendment, in view of the controversy over the legger-footer regulations by which footers not in operation on July 24 or operating only one shift may not be run more than one 40-hour shift during six months from the time the code became effective. In the meantime, a committee of the code authority is to submit, for the NRA Administrator's approval, a recommendation for determining a more permanent policy respecting footer operation designed to effect a reasonable balance between production and demand.

As to the six months during which the present code is expected to be in force as to footer and legger ratio of operating hours, various opinions on that subject are likely to be submitted by members of the National Association of Hosiery Manufacturers. One who has been heard from favors a method of production control based on inventory. He suggests that any manufacturer who can dispose of his production profitably within reasonable time should not be subjected to a mandate to curtail production. While subscribing to the idea of some sort of control for better balancing output and consumption, he

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is outspoken in opposition to any reduction in hours for leggers for establishing a proper ratio to footer facilities. The point is made, too, that it is going to be a very difficult matter to so adjust control as to not impose hardships on manufacturers of one gauge or another, laying stress, as he does, on his assumption that fine gauge goods are in increasing favor. To curtail all production might of course penalize producers of the better selling types of hosiery.

The Hosiery Code Authority was called upon recently to rule in the case of five full-fashioned mills in Philadelphia neither of which had operated footers on July 24, yet were since operating two shifts per week. The Code Authority ruled that they might operate only one shift of 40 hours a week, in accordance with Section 7 of Article IV of the code. By this ruling, which, it seems, hardly could not have been otherwise, all types of footers in the five mills to which the decision applied specifically are affected alike, regardless of gauge or demand or lack of demand for the output of any one type.

The trade is awaiting a report of the result of the code authority's request for information of the extent of double-machine full-fashioned legging operations on July 15 and September 15. The returns to its questionnaire were to be completed by November 10.

Louis Hirsch Textile Machines, Inc., E. O. Spindler, Grosser Knitting Machine Co., Alfred Holmann, Inc., and Robert Reiner, Inc., have organized The Knitting Machine Importers Association, preliminary to operating under a code. Max Nydeger, Grosser Co., is president.

Latest Developments in the Ringless Situation

PRODUCTION of women's silk full-fashioned stockings absolutely free from rings due to unevenness of silk is fast increasing, and it seems not unlikely that ringless will be specified in a very large per cent of the orders for hosiery to retail for more than one dollar a pair.

While an increasing number of manufacturers report installation of ringless attachments, this equipment cannot be considered an index of the output of hosiery that probably will be on the market as mechanically ringless, for some mills, using no special equipment, are known to be offering what is described as guaranteed ringless. One concern is experimenting with two ends of two-thread silk without use of the patented tension device by which unevenness causing rings is said to be overcome. One or more manufacturers are knitting in the regular way, using no special attachment, and segregate the ringed stockings, to be sold as irregulars, provided they do not fall into the hands of dealers inclined to be reckless with the hosiery code.

It is argued in behalf of the few mills adopting this method that the loss by reason of irregulars because, only, disfigured with rings, is no greater than the cost of the tension devices. Against this reasoning is the proposal that irregulars on the border line are liable to find their way into the bins set apart for first quality, first grade or "perfects," or by whatever term the flawless are distinguished from goods that cannot rightfully be rated better than irregular.

Brownhill & Kramer, Philadelphia, reported recently having completed equipping of its 48-gauge machines with the ringless attachments. One of the first and larger patrons of this device is the Oakbrook Hosiery Mills, Reading. All of the company's 54-gauge equipment are reported carrying the device, and it is understood nearly 50 per cent of the output of the plant is mechanically ringless. But for the unsteadiness of the hosiery markets and uncertainty of the public's attitude toward the necessarily higher prices, the per cent of ringless in relation to totals doubtless would be very much larger than it is.

Proposed Agreements on Sale of Cotton Yarn

ACTION which it is believed in the cotton yarn trade will indicate how far the government may be willing to go in fixing minimum sale prices seems likely to be taken in response to a proposal of the Cotton Yarn Merchants' Association as outlined at a meeting November 13, under the auspices of that organization at the Penn Athletic Club in Philadelphia followed by a meeting of mill executives and selling agents in Charlotte, N. C., on November 14, at which the following recommendations were discussed and approved:

Spinning mills shall furnish certified reports each week to the Statistical Bureau of the Cotton Textile Institute, of all sales of carded yarn during the immediate preceding week (except through selling agents) quantity, description, delivery specifications, prices and terms. Selling agents shall file similar reports as to all sales made on behalf of spinning mills.

Selling agents shall not buy stocks of carded yarn for their own account or engage in short selling, but a selling agent may sell for his own account yarn which he may be required to take over by reason of his guarantee of a customer's account on a contract.

No spinning mill shall, either directly or indirectly through a selling agent, guarantee prices against a decline or directly or indirectly abate prices on unfinished contracts, except as costs are affected by government action. Commissions to selling agents shall be not less than five per cent; brokerage to a broker not less than two per cent.

There was under consideration also a proposal for "temporary further limitation of machine operation and temporary provision for establishment of minimum prices that will prevent sales below cost." This proposal suggested that a sub-committee, as constituted by the Cotton Textile Industry Committee, shall at times consider relationship of prices for carded yarn to manufacturing cost, and if menacing

The "New Deal" calls for New Efficiency

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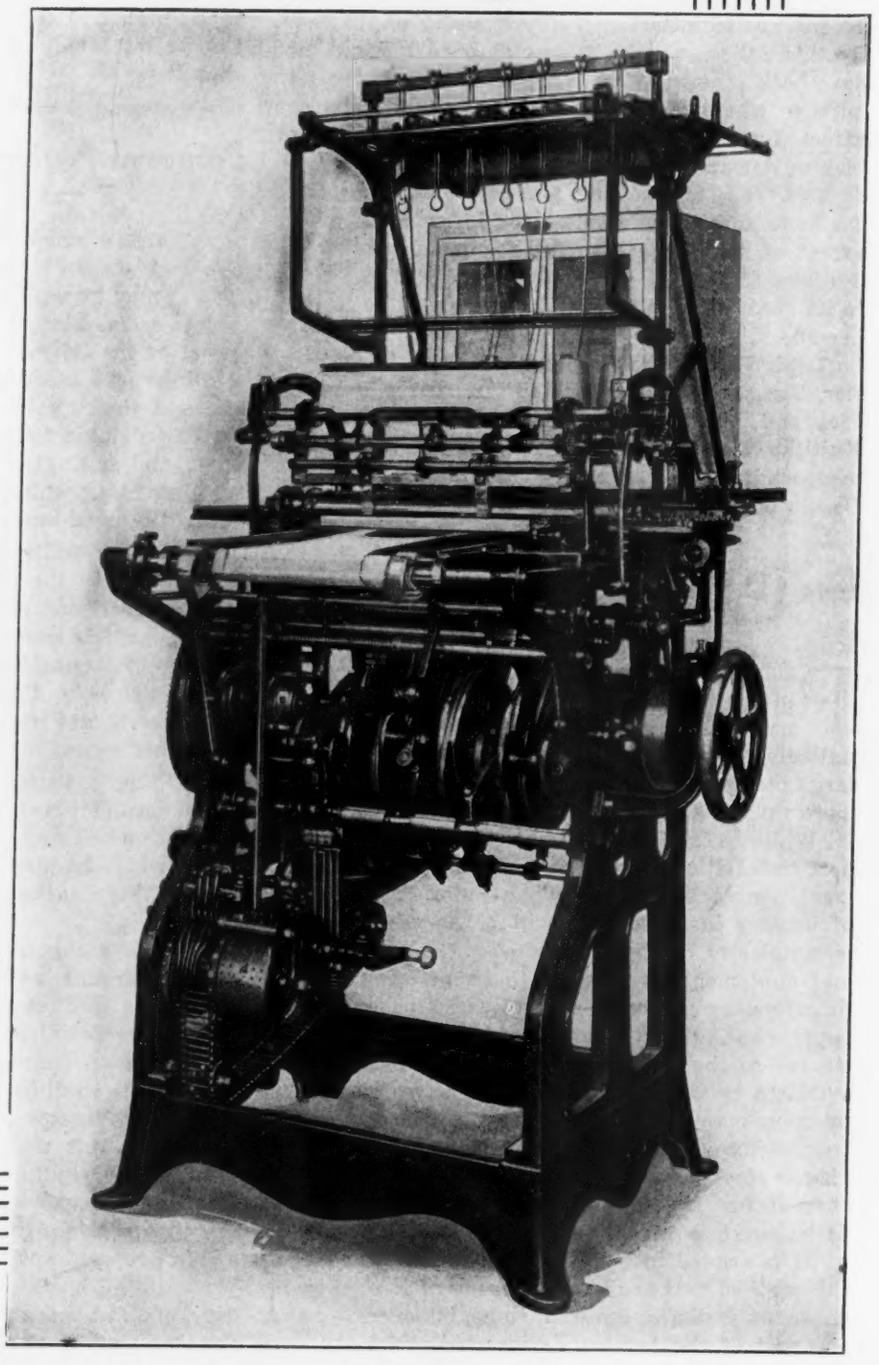

The
WILDMAN
SINGLE HEAD
Full-Fashioned
Hosiery
Machine

Literature on Request
WILDMAN MFG. CO.
Full-Fashioned Division
NORRISTOWN
PA.

small producers, maintenance of wages and employment, name a minimum price differential based on cost studies by the Cost Engineering Department of the Cotton-Textile Institute, with the idea that unfair competition for spinners and selling agents, by selling in the domestic market below minimum fair competitive market prices, be averted.

Organization of Southern Mill Men Brings Reminiscences of "Olden Days"

THE organization of a sectional association of hosiery manufacturers by the southern group, reported last month as having been launched at a meeting in which 67 representative plants were recorded as participating, may be regarded as prompted by a necessity for closer affiliation for conforming to the provisions of the hosiery code as well as the promotion of sectional interests while co-operating fully in the aims and objects of the National Association of Hosiery Manufacturers.

It seems appropriate in this connection to recall that the present national body really had its origin in what is believed to be the first distinctively hosiery manufacturers' organization, and that the association referred to was a product of southern manufacturers who got together as an organized body in 1903, according to several old-timers reminiscing on the early days of mill men's troubles. Harold Lamb, president of the Union Manufacturing Co., Union Point, Ga., who was among those active in the parent body of 30 years ago—the Southern Association of Hosiery Manufacturers—was the first president of its offspring, the National Association of Hosiery Manufacturers, of which Earl Constantine, the present manager, is the third person to be elected to direct its affairs.

From a copy of the minutes of the semi-annual meeting of the Southern Association of Hosiery Manufacturers, at Charlotte, N. C., June 14-15, 1904, it is learned that the hosiers of that time had their troubles no less than many who are now wrestling with the matter of code observance with the least personal inconvenience. "I hardly think you will ever again see such times as we are having," said S. A. Ashe, Jr., the secretary, during a discussion. "such times as we have not seen since 1897; really, I might say, since 1893."

Reviewing fluctuations in the prices for carded yarn and the cost of producing hosiery and prices at which certain types were selling, Mr. Ashe said, if correctly quoted in the minutes of the meeting, that at that time—June, 1904—"2-ply 20s carded were costing 18 cents, whereas in 1897 the price was 16¼, while hosiery which in 1897 started at 95 cents, is today 90 cents, and the situation is one that I hardly think you will ever see again."

Referring to fluctuations in cotton, the raw fiber he stated, advanced in price a half cent to 8 cents in January, 1897, declined to 5⅛ in 1898, moved up to 12 cents in 1899, slipped back to 8 cents in 1900, and in February 1904, was selling for 17 cents, declining to 11.90 cents by June of that year. Yarn seems to have followed the ups and downs in cotton rather closely, 20s/2 moving from a low of 15¾ cents early in 1897 to 23¼ in 1900, to almost 25 cents in 1904 and declining to around 18 cents by June of that year.

Dealing with the matter of labor cost per dozen, Mr. Ashe, quoting at that time from payrolls, said the average from 1897 to 1904 was about 13¼ cents, mounting to 16¾ cents in June 1904.

In 1897, it was related by Mr. Ashe in the 1904 meeting in Charlotte, "with cotton at 7 1/3 cents, 20s/2 carded yarn 16¼ a pound and labor costs 13¼ cents a dozen, children's 2-pound 4-ounce stockings sold for 95 cents a dozen, terms 2/10 and at the best only New York freight allowance.

"Today," continued Mr. Ashe, "with cotton 11 9/10 cents a pound yarn 21, and labor cost 16¾ cents a dozen, the average price for the same style and weight hose is only 90 cents a dozen."

Ascertainment of costs was puzzling hosiery manufacturers no less in 1904 than at present and all through the intervening 29 years, as in the minutes of the Charlotte meeting in 1904 Harold Lamb read a report on "Cost Finding in Hosiery Mills." Submitting a cost basis, Mr. Lamb's report recited: "Your committee does not believe it possible to fix the price of goods, but it does believe if this basis of cost be found correct, the same printed and distributed among the members of the Association and, for that matter, those not members, it would force those not in the habit of thinking, into this mental process; and to selling agents. 'More money or withdraw our goods from the market,' would be the almost unanimous cry."

The meeting named W. H. Willard a committee of one on ascertainment of costs and selling prices, with the official title "Commissioner of Values." Garnett Andrews, J. F. Cannon, S. A. Ashe, Jr., and J. S. Carr, Jr., were appointed a committee to decide upon the line of work to be taken up by Commissioner of Values Willard, who was superintendent of the Shamrock Mills, Winston, N. C. The annual dues of the Southern Association of Hosiery Manufacturers was $5, the cost of living for trade associations being somewhat easier on the purse than at present.

Survivors of those attending the 1904 meeting of the association will recall in a glance at the following list of "those present," as preserved by the minutes of the meeting, a number of manufacturers and mills have "passed on":

J. H. McPhail, Nashville (Tenn.) Hosiery Mills.
D. J. Carpenter, Newton (N. C.) Hosiery Mills.
J. M. Jones, Jr., Sweetwater (Tenn.) Knitting Mills.
L. H. Harvin, Manning (S. C.) Hosiery Mills.
S. A. Ashe, Jr., Raleigh (N. C.) Hosiery Mills.
H. Lamb, Union Manufacturing Co., Union Point, Ga.
J. S. Carr, Jr., Durham (N. C.) Hosiery Mills.
L. Vinson, Littleton (N. C.) Hosiery Mills.
W. H. Willard, Shamrock Mills, Winston, N. C.
F. S. Wilcox, Tryon (N. C.) Hosiery Mills.
Garnett Andrews, Richmond Hosiery Mills, Chattanooga, Tenn.
D. L. Rosenau, Rosenau Hosiery Mills, Tuscaloosa, Ala.
H. R. Berry, Rome (Ga.) Hosiery Mills.
J. F. Cannon, Windemere Knitting Mills, Albemarle, N. C.
H. M. Johnson, Knoxville (Tenn.) Knitting Mills.
R. M. Oates, Henderson, N. C.
S. H. Wiley, Salisbury (N. C.) Hosiery Mills.
J. A. Groves, Wiscassett Knitting Mills, Albemarle, N. C.
E. J. Ingram, Mailes (N. C.) Knitting Mills Co.

Also present were R. S. Reinhardt, Lincolnton, N. C., president, and C. B. Bryant, Charlotte, N. C., secretary, the American Cotton Manufacturers' Association.

To All our Friends--

WE SEND THE VERY MERRIEST OF

Christmas Greetings

AND FOR THE NEW YEAR WE WISH THEM EVERY SUCCESS WITH THE HOPE THAT 1934 WILL SHOW A RETURN OF PROSPERITY TO ALL.

Robert C. Boger

PRESIDENT

BOGER & CRAWFORD

Philadelphia

B&C

Handling Full-Fashioned Press-Offs

EDITOR COTTON:

In reply to "CONTRIBUTOR No. 6253" who requests ideas and comments on the disposition of press-offs on full-fashioned work, may I say that in our mill this does not present very much of a problem. The reason for this is that we keep our machines in first-class condition by frequent inspection of all the parts that come in contact with the silk yarns, so that we are reasonably certain that there are no sharp corners, nor clogged or dirty parts. It is only reasonable to assume that if the throwster does a good job of winding, and there are an excessive number of press-offs, there must be some fundamental cause for it on the machine; and that an inspection will usually reveal the source of the trouble. We also are careful to demand good quality of silk.

When press-offs occur we ask each knitter to top them on himself. He is free to do this whenever he so desires, but we have an inspection every week-end to see that there is no accumulation. If the press-off occurs any considerable distance above the calf narrowing, we sell them as waste. This may seem grossly extravagant but after a long and careful study we have found this to be a very economical method. When one considers the length of time a machine is shut down to top a stocking on and the possibility of not having the carriers at the right place, thereby making another bad stocking, one can readily see that this is false economy. It must be remembered, however, that this is on a stocking in the lower price bracket and based on cheap silk. It may be that high grade merchandise and a substantial increase in the price of silk may change our minds, but we doubt it.

As to the possibility of reclaiming silk by backwinding, we feel that this is not economical because of the investment in winders used for this purpose, and I know the contributor will agree that silk that has been run through a knitting machine has lost a lot of its elasticity and life; and since the fibers of the silk become set in the knitted fabric, it is rather difficult to get anything but a crinkled yarn after backwinding. Backwound yarn should not be used in the main portion of the leg, because of this crinkly condition; consequently, it must be used as a splicing yarn. And since it is full of knots when it is used for that purpose, it is likely to press-off, thus causing another bad stocking to be made. When a splicing yarn breaks, it usually means that the amount of silk lost, due to ravelling, is almost as great as that reclaimed by backwinding.

One of the essential requirements in a knitter's training is to learn how to top a stocking on a needle bar in a minimum amount of time. If all knitters in a mill are trained to do this the question of disposing of press-offs would be almost negligible.

Our operators try to help each other to use all press-offs that are to be reclaimed by exchange. In other words, if one knitter has an empty section and has no fabric to top on, he will inquire from the knitters nearby, and in this way help his fellow worker. We find that this works out very nicely; however, it must be remembered that this requires close co-operation between the machine operators and the management. It is the overseer's job to see that the amount of press-offs is not exorbitant. If a knitter hands in a large amount, the foreman conducts an investigation immediately instead of reprimanding the operator, because we know that excessive press-offs are not the fault of the knitter, but the fault of the management. Consequently, our boys take great pride in the number of full sets they take off the machines.

We believe it is a very bad practice to have long topping bar and make provisions for the disposition of press-offs. To our way of thinking, this encourages laxity among the operators, and they reach the stage where they do not bring repeated press-offs to the overseer's or fixer's attention, thereby cutting down the production of the machine considerably.

I realize that our system is somewhat out of the

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WE invite our readers to make use of this department for the discussion of any and all problems arising in connection with the knitting mill from the office to the packing and shipping departments. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. All questions will be answered as promptly as possible. The names and addresses of the contributors must be given, but will be held in confidence and a pen name substituted when printed. All acceptable contributions other than questions will be paid for after publication. The editors do not hold themselves responsible for any statements of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

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ordinary and that your contributors may be inclined to disagree with us. I wish to say, however, that we are convinced that this method is the most economical of all those we have investigated; and we, too, have given considerable thought to this question.

CONTRIBUTOR No. 6263.

Answers Question On Looper Course Stitch

EDITOR COTTON:

In a recent issue "CONTRIBUTOR No. 6239" asks the following questions in regard to the operation of looping seamless half-hose:

"Our work consists of 176-needle half-hose. We should like to know if it is found advisable to make a looper's course of looser stitch on the knitting machine, so as to enable the looper operator to find the proper course and stitches more readily, or on the other hand, whether it is better to make no difference in stitch from the beginning of the toe to the end of the looper's round. If such a course of looser stitch is made where the fabric goes on the looper, are holes more apt to develop at this place?"

The question of whether to make a looper line or not has been argued *pro* and *con* especially since the introduction of the trimmer knives for looping machines. Some years ago when the looper operator placed a sock on the machine the looper rounds had to be raveled down by hand. Later a raveling device was used which consisted of a revolving shaft located above the looper dial. The operator would find the end of the yarn in the looper round and wrap it around the shaft, the shaft while turning would unravel the rounds down to the points. It is easy to understand that the size of the loose course did not matter with such arrangements, just so long as the operator could see it. Next came the introduction of the trimmer knife for looping machines. The operator puts the hose on the machine in the usual way but instead of raveling the round, the trimmer knives cut it off, leaving one stitch on the points. Since the rounds are being *cut off*, the size of the loose course is *very* important.

My opinion is that it is just as necessary to put a looping line in the toe for the looper operator as it is to put a topping line in the top for a transfer knitter. There are three factors which must be taken into consideration in connection with looping seamless hosiery.

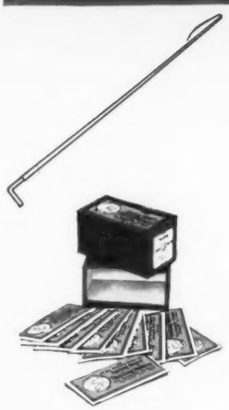
They are: The knitting machine, the looping machine and the looper operator.

Looping, like all other operations in a seamless hosiery mill, has its ups and downs. It can be made an agreeable or at times a very disagreeable job for the looper operator and the looper fixer under certain conditions. Good looping results must begin at the knitting machines, so let us first consider Factor No. 1.

Many machine fixers do not appreciate what the looper operator and fixer are up against, and therefore neglect their knitting machines as far as looping lines are concerned. Many machine fixers do not realize that the mill's cost per dozen is being increased by their *failure* to turn out goods *fit to loop.* To begin with, the knitting machines must be adjusted to produce a looping line all the way around and large enough so it can be distinguished readily from the regular toe stitch. All machines on a given style should be adjusted to make looper lines as nearly uniform as to size as possible. It is a common occurrence to find machines making a looper line entirely too large and to make a bad thing worse only three-fourths of the way around the toe. Another bad feature is to knit the looper rounds or finger-hold too loose or too tight. It should be knit as the toe stitch, never tighter or preferably slightly looser to favor the looper operator. Loose courses knit too loose usually cause imperfects by cutting holes at the knitting machines and for this reason fixers have the habit of making them too small or not making them at all. Any knitting machine in fair shape should knit a loose course fit for the looper to see and follow. Many mills on account of making different styles, both in the grey and ingrain work and using plain, combed or mercerized yarns, find it satisfactory to knit a looser stitch from the time the toe is finished to the end of the looper rounds and omit a distinct loose course. In this case the looper operator follows the first looser course of stitches next to the tight knitting. This plan has its advantages and no doubt is far better than no loose course at all or one part of the way around. The best way to get a knitting machine fixer *loose course minded*, is to take him to the looping department and let him see what happens when he fails to do his part.

The looper fixer has his troubles even when goods are knit fit to loop. The trimmer knives must be sharp so they will cut clean and they must be set at the proper height to prevent cutting the loose course. The looper needle, hook and chaining finger must be accurately set. Proper yarn tension is important. The points must be straight, evenly spaced, and all play or lost motion must be taken out of the dial, gears, shafts, etc. All of these things and many more are necessary for good looping, and most looper fixers have little difficulty if they are given the help they deserve by the knitting machine fixers. Some looper fixers prefer no loose course at all as it eliminates cutting trouble. This, however, is the other extreme as it throws an unnecessary burden on the looper operator.

Looper operators differ in their opinions in regard to loose courses for looping, much depending on how coarse or fine the goods are, how the operators were trained, also whether they loop ingrain or natural (usually called white work). Most looper operators prefer a loose course and will get better production if it is made right. The danger of cutting holes is greater when a loose course is used as the operator must be careful not to stretch the work out of shape when putting it on the points. The all important thing as far as the operator is concerned is that the loose courses be *uniform* as to *size, large* enough to be *seen* and *all the way around.* If the looper operator has trouble such as leaving off stitches or cutting holes, the looper fixer can readily deter-

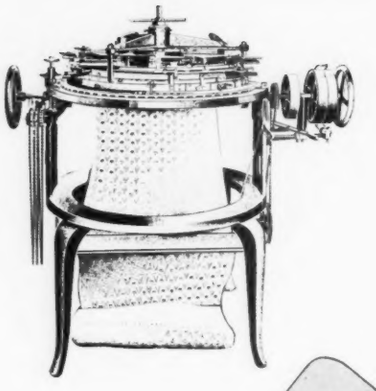


Mechanical fingers . . . fingers that never fail to touch the right lever at the right time . . . control the making of each Torrington needle. We depend on swift sure *machines* for uniformity—and knitters who depend on Torrington needles know it pays!

TORRINGTON *SPRING BEARD* NEEDLES

THE MACHINE . . .

All new improvements receive serious consideration, in the building of this Stafford & Holt machine. An improvement they have long enjoyed, is *Torrington needles.*



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The list of enthusiastic endorsers of Torrington needles is diversified—but in each of the names on it, there is apparent that one important thing—an emphasis on quality—quality in the merchandise they make, and in the tools they use to make it.

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mine by examining some of the looped and unlooped work whether the machine, the operator or the knitting department is at fault.

Perhaps I have left the impression with the reader that I am a cranky looper fixer having a big time "panning" the knitting machine fixers for lack of attention, ignorance, etc. Such is not the case, rather I have tried to present the experience of a knitting machine fixer who has had the opportunity of spending some time around looping machines.

CONTRIBUTOR No. 6240.

The Care and Operation of the Banner Split-Foot Machine.

Article Five

(This article is the fifth in a series of discussions on "The Care and Operation of the Banner Split-Foot Machine." The author started the series in the first article on page 89 of the April issue. The second article was on page 89 of the May issue, and covered sinker cam adjustments. The third article covering the carrier ring, yarn levers, cam block, center guard cam, etc., was on page 93 of the July issue. The fourth article, covering the stitch ring, sinker holder ring, cylinder bands, needle cylinder, narrowing picks, and widening picks, appeared on page 103 of the September issue.

Readers are urged to clip these discussions in order that they may have a complete file of these articles. Copies of the first and second installments will be furnished upon request. The author is willing to answer any specific inquiries concerning these machines.

The numbers appearing in parentheses following the names of parts are those used in the manufacturers' blue print book which is furnished to operators of the split-foot machine.—The Editor.)

Article V—Split-Foot Machine

EDITOR COTTON:

Chain Links

Chain links on both the old and new model split-foot machines give very little trouble and do not require a great deal of attention. Various forms of machine trouble, such as broken needles, damaged cylinder walls, widening and narrowing pick troubles, etc., can very often be traced directly or indirectly to the chain links. They will eventually wear out due to being in constant use, and much depends on the amount of attention given to them during their useful life. Many machine fixers do not *look* for chain link troubles, they simply *wait* for them.

Changing Links

Each machine is equipped with a given number of plain links and lug links which are placed so as to make the necessary drum moves at the proper time. The lug links provide one or more long or short moves of the main ratchet, depending on the height and length of the lug. These lug links are seldom changed except in few instances, when styles are changed requiring different main ratchet moves. The plain links, however, are changed frequently due to size changes and construction changes which require heavier or lighter yarns. Very often in making changes in a hurry, the machine fixer or helper will use links which do not hinge freely with each other and cause the chain to buckle up while passing over the chain sprocket and the result will be a machine out of time, causing machine breakage or waste.

The lug links are subject to wear which in time will cause mis-moves and bring on various forms of machine trouble; needless to say, worn links should be replaced promptly. (Note: All part numbers given are shown in the split foot blue print book.)

It is not uncommon to see machine fixers grind off the front of one lug link, the back of another, and beat out the top of a third link with a hammer in order to make the pawl plunger (157) take the proper tooth on the main ratchet (3463—Illustration 25). Now, there is bound to be something radically wrong somewhere when such work is done. It is high time to check up on the chain ratchet pawl (653—Illustration 8) and see if the point is badly worn. It takes but a few minutes to remove, re-face and replace it. Also, make sure that the chain ratchet pawl cam (583—Illustration 3) is set to give the proper length of stroke to the chain ratchet pawl (653). The pawl (653) must work in harmony with the pawl holder (5916) and block (518).

The Pawl Holder

The pawl holder (5916—Illustration 6) has a double function; it carries the holder block (518) which rides over the lug links, and it controls the pawl plunger (157) so it will take the proper tooth in the main ratchet, depending on the height of the lug link on which the holder block (518) is resting. In order to make the proper drum movement it is essential that the chain ratchet pawl move the lug links up *to* the block (518); the next move should put the block (518) up *on* the lug link either in one or two moves, depending on the kind of link, and when the block (518) comes off the lug link it should come off *completely without hanging or dragging.*

The pawl holder block (518) is provided with a simple adjustment which enables the fixer to re-adjust it when it becomes worn from riding over the chain links. A great deal of damage to machine parts, labor and loss of production can be avoided if the chain controlling mechanism is kept in first-class condition. This is not a difficult task; it merely calls for a little attention at regular intervals, and the time required will be well spent.

The Main Pawl

The main pawl (11204—Illustration 8) requires no attention other than regular lubrication. A very simple means of adjusting the main pawl plunger (157) is provided by two slots in the pawl which enable the fixer to move the plunger forward or backward in a few minutes when necessary. The main pawl plunger is subject to wear in two places; namely, at the front where it comes in contact with the teeth in the main ratchet and on the under side where it rides back and forth on the pawl holder. As a rule, machine fixers do not pay any attention to a main pawl plunger until it actually gives trouble, and then it is too late. Much better results will be secured if main pawl plungers are re-faced and re-adjusted *before* they give trouble. They will give many months of trouble-free service if they are gone over regularly and the cost of replacing

a worn-out plunger is very low, considering the amount of service it will give. The best material obtainable is used in making parts of this kind; that's why they serve so well.

The Clutch Shifting Mechanism

Very few changes have been made in the design or construction of the clutch shifting mechanism since the first Banner machines were built. The reason for this is that it would be very difficult to develop a simpler, sturdier or more effective device. The motion necessary to shift the clutch back and forth is gotten from a series of hardened steel clutch cams (3149, 3150, 160 and 161) which are held to the drum (3462) with screws and washers. The front ends of the respective clutch cams are tapered to insure easy action, and the screw holes in the cams are enlarged so that the cams are adjustable, forward, backward, to the right or left. The clutch lever plunger (162—Illustration 29) rides against the clutch cams while they revolve with the drum. It transmits the motion produced by the clutch cams to the clutch lever (329—Illustration 29). The clutch lever plunger (162) will in time become worn where it forms contact with the clutch cams; it can be re-faced and re-adjusted very easily. The clutch lever plunger is the only part of the whole clutch shifting assembly that ever requires renewal (barring accidents or abuse) and it costs less than any part of the whole assembly.

The clutch fork holder (326—Illustration 29) works in conjunction with the clutch lever and holds the clutch fork (30) in position in the groove of the clutch. The clutch lever is pivoted on the stud (533—Illustration 29) which is firmly fastened to the frame of the machine. Once the various parts of the clutch shifting mechanism are properly timed and adjusted they seldom get out of order and therefore require very little attention.

Machine fixers who are familiar with circular knitting will immediately notice the smooth action of this clutch shifting arrangement on split-foot and other models. It does not produce a slap-bang racket as though something was about ready to happen. Constant use will naturally necessitate some minor adjustments from time to time, but when this does occur there is ample flexibility, everything can be gotten at from the front of the machine where the fixer can see what he's doing and get it right the first shot.

Stitch Adjustments

One thing that the old model split-foot machine lacked was an individual stitch control for the various parts of the hose. Very often in loosening or tightening the stitch in one part of the hose some other part would also be affected, making re-adjustment of numerous cams necessary. This required considerable time and consequently slowed up production.

The new split-foot machine is equipped with an 8-plunger fashion wheel which gives an individual adjustment for each different area of the hose. This eliminates labor and guesswork for the fixer. A similar arrangement is used for the auxiliary knitting side, which assures accurate stitch control while the cylinder is reciprocating.

Keeping his machines properly adjusted so that the goods he knits will *really fit* and *finish well* is one task a good machine fixer will *never shirk*. It very often is the deciding factor as to whether a fixer deserves a raise, a cut, or loses his job altogether.

In an earlier discussion of split-foot machines, I stated that on the old split-foot machine, it was difficult to knit most any size or count of yarn; in other words, the heel, toe, instep, splice and sole yarns had to be more or less balanced as to size or weight, and kept within certain ranges in order to run satisfactorily. Extreme variations in size or weight between the leg and instep and the sole yarn, for instance, were out of the picture entirely.

On the new type fine gauge split-foot machines equipped with an 8-plunger fashion wheel and auxiliary knitting stitch control device, it is possible to knit such extremes as 8-thread silk or 125 denier rayon for the leg and instep and still use a 40s/2 mercerized yarn for the sole. The heel, toe and splice can be proportionately heavier or the same size as the sole, if desired.

It may be of interest to machine fixers and others who are not familiar with the new 1931 model split-foot machines to know that these machines will successfully run the following combinations of yarn:

No. 1—Machine: 240-needle, 3½-inch, 54 gauge. Yarns: Ring top, 40s/2 mercerized; leg and instep, 14-thread silk; high-splice, 19-thread silk; buffer heel (re-inforcing in high splice) 110s/2 mercerized; heel and toe, 2 ends 70s/2 combed peeler; sole, 50s/2 combed peeler. (Note: This number is knit with degummed and dyed silk yarns, dyed buffer heel yarn and natural (white) heel, toe and sole yarns.)

No. 2—Machine: 240-needle, 3½-inch, 54 gauge. Yarns: Ring top, 40s/2 mercerized; leg and instep, 12-thread silk; high splice, heel, toe and sole, 8-thread silk *plaited* over 70s/2 mercerized; buffer heel, 110s/2 mercerized; triple toe, 110s/2 mercerized. (Note: The triple toe yarn just mentioned drops in when the widening picks go into action. It knits in with the toe yarn from gore to gore across the top of the toe and continues down to the loop line.)

In addition to these constructions, wool-and-silk and wool-and-rayon mixtures can be used for the heel, toe and sole, with a silk leg and instep; also other combinations too numerous to mention. It is a known fact that the new split-foot machine will knit most any combination of yarns within reason, including a great number which several years back would have been considered completely out of reason. There is no doubt as to the flexibility of this machine.

The Narrow Sole Attachment

Most of us remember a few years back when a half-hose number made with a black leg, white foot, heel and toe was a good seller. They were being made on all different kinds of circular machines in existence and could only be worn by the man who

preferred his top shoes. Then along comes the first split-foot machine which made goods with a black leg and instep and a black or white high-splice and white heel, toe and sole. The man who preferred the somewhat lower cut shoes could again buy socks with white feet. This first model split-foot machine knit the instep on one-half of the needles, and the splice, sole, heel and toe on the other half. Again, white foot socks became popular.

Then the shoe manufacturers started a successful campaign with extremely low cut shoes, and again the white foot sock was out of the picture, for the man who wore them had to advertise the fact. Now, with the new split-foot, the man who prefers white-foot socks can wear them with low-cut shoes without "telling the world". The narrow sole attachment reduces the size of the heel pocket and width of the sole by controlling the needles in such a manner that the heel and sole can be knit on less than half of the needles in the cylinder, the balance being added to the needles used in the instep.

For example: on a 240-needle machine, 18 short butt needles can be added to each side of the long butt needles, thus making the instep with 156 needles instead of 120, and making the high splice, heel and toe with 84 needles instead of 120. This narrows the splice and sole considerably and reduces the size of the heel proportionately. Near the toe the sole is widened so that the needles again knit half and half. This gives the hose a block effect and assures covering the first toe joints with the sole fabric instead of instep fabric; thus wearing quality is assured at this point.

The various cams and parts which constitute the narrow sole attachment are shown in the blue print book, Illustration 11. None of the respective parts gives a great deal of trouble, and as usual, simple adjustment facilities are provided.

In closing this discussion, I would like to leave this thought: Much grief, expense and loss of production can be avoided if the fixer will put a few drops of good lubricating oil *in the right* place on his machines *regularly.*

CONTRIBUTOR No. 6206.

Another Answer On Full-Fashioned Re-Seamers.

EDITOR COTTON:

I notice that in August COTTON under "KNITTING KINKS" you published two answers to the inquiry with reference to the average percentage of re-seamers on 3- and 4-thread full-fashioned work.

We are always glad to submit any suggestions or information that will prove helpful to the readers of this department. Our re-seamers on 3- and 4-thread chiffon stockings average about .002, and about .001 on the combined hosiery we manufacture. It is our belief that crooked work (hosiery knit crooked by the knitters) and carelessness on the part of sewers are responsible for most re-seamers. However, bad edges, bad needles and a defective gauge can also be the cause. From experience we are convinced that careful operators can straighten most of the crooked work of the knitters thus eliminating practically all re-seamers from this cause. We suggest that the sewers be instructed to be more careful in their work.

CONTRIBUTOR No. 6274.

Another Formula for Stripping Hosiery.

EDITOR COTTON:

I notice that "CONTRIBUTOR No. 6156" is having considerable trouble with re-dyes in all-silk, full-fashioned hosiery; that after the color has been stripped out and the stockings re-dyed, they often have a harsh feel; that the silk, although it is high twist, has a very glazed appearance and is not as strong as it was originally, and that he desires a good formula for stripping the color out of goods to be re-dyed.

The trouble about which this contributor is complaining is one that should be expected, one that is confronting every hosiery manufacturer and one that cannot be remedied. More hosiery is being stripped and re-dyed today than ever before in the history of hosiery manufacture, and hosiery today is not only re-dyed, but it is re-re-re-dyed, in many instances, more than ever before.

There was a time, many years ago, when all re-dyes were turned into black. Re-dyes in the hosiery mills meant hosiery that had come out streaky or shady from the dyeing and sometimes spotted from dirt or oil; also, some imperfectly knitted hosiery was re-dyed black to reduce the seconds, because in black, many faults were covered up, more or less. Stripping was seldom resorted to, as light soaping was all that was needed before re-dyeing into black, and once black, the hosiery was disposed of in the most profitable way.

Whenever a desired shade was hard to get, and in order to save time and also to save the goods, the spoiled lot was turned into black and another lot taken to be re-dyed the shade needed. Black was a staple in all mills, and fully 50 per cent of the production sold was black anyway, but now-a-days, black being only sold for mourning, and in many cases not wanted even for that, stripping has therefore become necessary, and whenever a lot of hosiery has been punished long enough and the elusive match has not been obtained, it is stripped and a fresh start is made.

The writer knows of a mill where the dyer was made to resign and a cheaper man put in his place in order to cut down overhead expense. The new dyer had to strip lot after lot, sometimes several times, before a presentatible match could be obtained, and naturally, with hosiery being worked and re-worked so long, it is no wonder that the feel, the looks and the strength of the silk is impaired. Of course, due to the cost in chemicals, labor and dyestuffs, coupled with an inferior product, the overhead in the dyehouse was not lowered, and, needless to say, customers will not stand very long for an inferior product when they want first-class merchandise. In this instance the other man would have proven a lot cheaper even at his higher salary.

Then too, in most mills of today, hosiery from stock that is dyed an obsolete shade or a shade that is not moving as fast as it should, is often taken off the

shelves in order to reduce the stock and release the capital tied up in it. It is then taken to the dyehouse to be stripped and re-dyed a more desirable, fast selling shade. If this were done once and the goods disposed of it would be all right, but the writer has seen that done by the stock keeper, with the same hosiery, several times, and a box of stockings that has gone through that kind of a racket several times is surely not worth much when it is finally sold. Advising the man in charge to avoid re-dyeing so many times does not do a bit of good. He wants to keep his stock down; he is responsible for that, and when results are not up to expectations he lets the dyer worry and take the blame.

Silk will get hard and stiff when worked for an undue length of time in boiling baths, and a physical change takes place in the silk fiber due to the continual application of heat, changes in temperature and in most cases from the use of the wrong chemicals and treatment; the goods are subjected to processing that is carried on too long and the most skillful and experienced dyer can do nothing to prevent that harshness and stiffening of the silk fiber. The way out of this difficulty is to avoid re-dyeing more than one time, or, to make the best of the results obtained.

The best way to correct hosiery that has been rendered harsh and stiff by the abuse of re-dyeing is to take, after being boarded, a few pairs at a time and hold them in the hands by the tops and the heels, giving them a strong pull, lengthwise, to break the stiffness in the contracted loops, and maybe pull them a couple of times with a rotating motion when very stiff. In this way they will become soft again; the stiffness will be taken out, and, if done carefully, they will be found pliable and free of wrinkles.

The freshness obtained when silk is boiled off in 30 minutes, degummed and dyed in as short a time as is compatible with good work, will be lost when stripped and re-dyed. When that is done several times there is no way to retain that freshness, lofty appearance, soft feel and strength that are the natural properties of the silk fiber. Fine drawn cotton or delustered rayon might just as well be used as they would look just as well as silk that has been abused in the dyehouse.

A good formula for stripping the color out of goods to be re-dyed is more or less a matter of choice and locality; however, the quality of the water has something to do with it too; also the method of dyeing and the dyestuffs used.

There are many good strippers that work well in some dyehouses, but will not do so well in others. We have changed strippers a number of times, our choice being narrowed down to two, which we use according to the work we have to do. However, for the benefit of this contributor, we will describe some we have used and found efficient which he might try, selecting the most suitable for his work and the condition in his dyehouse. We found that laboratory trials are not always to be relied upon, as some strippers worked satisfactorily in a pot, but when applied in a machine full of goods would not strip so well and could not be used.

The first strippers used by the writer were used with acetic acid. One was very likely to become alkaline in the course of operation, and in that condition was ineffective. It had to be watched, using litmus or other testing papers (the pH control was not generally known at that time) and acetic acid had to be added from time to time to keep the bath slightly acid until the goods had been stripped sufficiently to be re-dyed. The war stopped the importation of these strippers and as far as the writer was concerned, no more dyed goods were stripped for a long time.

Hydrosulphite in many forms is used successfully in many mills for stripping, this being good for any dyed fiber. The following formula will strip the darkest shade and can be varied to suit the shade to be stripped:

Ten per cent hydrosulphite, 3 per cent zinc dust, 2 per cent acetic acid. In a bath at the boil for 30 minutes and wash thoroughly.

It is not the amount of stripper used that damages the goods, but the time the goods are left in the boiling baths. No stripper, known to the writer, has any efficacy unless the bath reaches the boiling point, and if there is not enough of it to take care of all the dyestuffs to be stripped, very ugly uneven results are sure to be obtained.

Some liquid strippers that work very efficiently in some localities are on the market. Why they do not work as well everywhere, the writer cannot say except as has already been stated—the method of dyeing and the dyestuffs used.

In selecting dyestuffs for hosiery today it would be well to pick out such as are described to discharge white, for they are reasonably sure to strip well also. Some strippers work well on cotton and not so well on silk, and others, vice versa, and being that in the make up of all silk hosiery, even in those that are described as all silk, there is always some cotton to contend with, this fact must be considered in the selection of the stripper.

There are certain cautions to be observed in stripping hosiery to be re-dyed that if disregarded are sure to result in grievous trouble. With the constant demand for cheap goods, in order to obtain some presentable finishes on poorly knitted and much too flimsy fabrics, a number of sizings, fillers, pastes and finishing compounds are offered to the dyer of hosiery with which to finish his goods. Regardless of the merit, or otherwise, of the stuffs used in finishing, it is important that it be removed from the goods before attempting to re-dye them. That can be accomplished by scouring them thoroughly before or after stripping. A good scouring bath for that purpose can be prepared with 4 per cent of a pine oil scourer, 1 per cent soda ash or its equivalent, or some milk alkali or ammonia water and 4 per cent of olive oil soap at no higher than 150 F. temperature. The goods are scoured in this bath for about 40 minutes and then washed.

This scouring will soften the hosiery and remove all finishes which otherwise will break up in the dyeing bath and impregnate the hosiery with those ugly bullets and specks so difficult to remove if allowed to form in the goods in processing. This operation is most important and can be done either before stripping, in which case some of the dyestuffs will also

drop along with the finishes and stripping will be much more effective, or it can be done after stripping, thereby saving time in rinsing provided enough stripper is used at the start to insure a good stripping without additions to the stripping bath.

CONTRIBUTOR No. 6161.

An Opinion on the Topper Knitter Question

EDITOR COTTON:

I notice on page 101 in the September issue of COTTON a question from "CONTRIBUTOR No. 6261", with reference to the comparative merits, on transfer seamless knitting machines, of having the operator do her own topping and giving her a larger number of machines, or having the topping done by other girls behind the machines. He says he is making half-hose fancies on 176-needle machine.

We have tried both systems, the one of having girls just to do the transferring and topping and the knitter nothing but knitting, and gave this up in favor of the one in which the girl does both knitting and topping. One reason for the change was, suppose the knitter had 14 or 16 machines, and then for some reason or other was out a day or so; if help were short we had these machines idle, but as for production, we were able to get more dozens naturally as anyone with only one thing to do gets more efficient on that than where she has to handle several different operations.

Then we found that by changing over to the system to having the girls doing their own topping and knitting, if for any reason one of them was out, only 4 to 6 machines were idle, according to the girls' ability, for we give them as many machines as they could keep up. You will find some girls or young women faster than others and one can handle more machines than another. I am reminded of one mill man who made a remark that when a young lady came in to get a job and she was watching the girls at work, he asked her if she thought she could learn to top and knit, and how long it would take her. If she answered "Oh, about two or three days", the man replied, "If I thought you could in two to four weeks I would give you a job at once."

An average knitter should be able to keep up 14 or 16 machines knitting—some get as high as 16—but of course this will be up to the individual ability of each knitter.

In the case of "CONTRIBUTOR No. 6261", I would suggest that he try, if he has knitters who do nothing but knit, to see if his knitters could not handle 14 or 16 machines; if not, he could either decrease or increase according to this own specific conditions. If he has his girls doing topping and knitting, let him try them with from 4 to 6 machines, and also vary this according to the ability of each operator, but he will find that in different mills the amount of machine ability per worker will vary.

With such a comparison he should be able to determine the respective results.

CONTRIBUTOR No. 6292.

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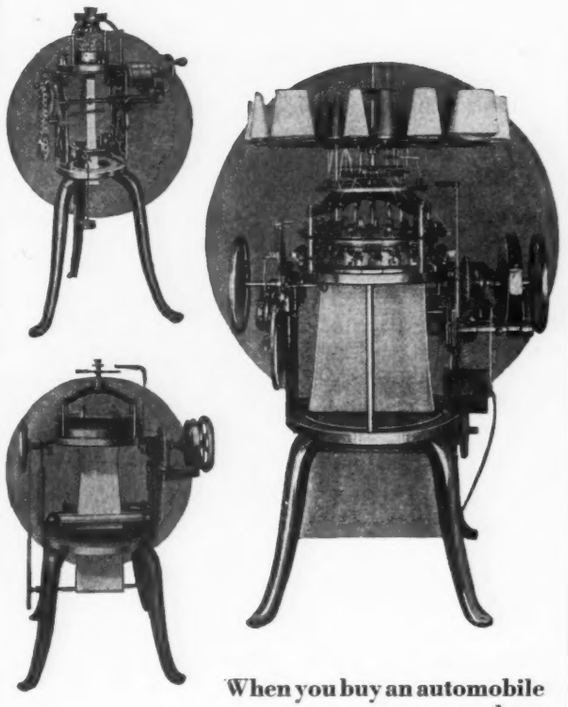

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THE KNIT GOODS MARKETS . .

INTEREST in women's silk full-fashioned hosiery as a Christmassy item showed a substantial broadening late in November, after the perhaps quietest market in some time. As the gap between best deliveries and the holiday shopping period narrowed, coarse gauge goods and some medium gauge in acceptable construction was let go by timid holders. This had an eventual wholesome effect in influencing some of the larger and more important mills to make deep cuts in production, and this served to bring tardy buyers into line.

Small, flexible plants producing 45-gauge stockings were, generally speaking, apparently, kept well supplied with small orders for rush delivery. The average condition among mills was regarded better in the southern zone than in the larger manufacturing centers in the northern area.

In some manufacturing sections remote from the principal industrial communities there has been maintained a better stage of output of moderate price hosiery, and market gossip was to the effect that this advantage could be ascribed to lower operating cost and prices accordingly. In fact, it is asserted by some of the buyers operating on their own account and distributing among a retail trade that does not profess to cater to a discriminating clientele, that some hosiery described as 42-gauge was knitted on 39-gauge machines, and that reputed 45s were a product of 42-gauge equipment. This might account for some of the low prices that came out last month. But low prices have been no index of value.

Chiffons of 45-gauge, in down-to-the-minute construction as to appealing features were exploited at 64 cents, and 42-gauge service weight at the same price, and it appeared that department stores were competing in price in this range, while some mills producing 42-gauge were idle or nearly so with accumulations for which $6 to $6.25 a dozen was asked. What was described as 45-gauge, silk all over, was priced 59 cents as a leader in a shoe shop doing a thriving business in a Philadelphia shopping center. It was an opinion in the trade that department stores featuring odd prices under 70 cents were running promotion sales in hosiery for getting an indicated laggard shopping public started in its Christmas buying. In any event, there seemed no doubt that considerable distress hosiery in the moderate price range was absorbed opportunely for mills adhering to quotations commonly regarded as representing the New York and Philadelphia markets. A lot of 39-gauge hosiery, silk to hem, was picked up by a seeker of cumbersome holdings, for $4.60 a dozen, which, according to a certified accountant, cost the manufacturer $5.21, including expense of selling.

Sale prices of 42-gauge four thread silk which back in April were commonly quoted $4 a dozen and later $7, were available during a large part of November at $5.75, some mills adhering to $6 and $6.25. The latter price was little heard of after 45-gauge came to be offered freely for $6.75 a dozen, a quarter less being quoted in some instances, when a very fine type of 48-gauge was moving ahead as the cream of the dollar stockings to that time.

What has the earmark of a winning number in silk full-fashioned hosiery, if properly exploited, is a five-thread 51-gauge, which of course would have to sell for perhaps $1.35. In some of the shops, it was stated in November, there was no action in hosiery at more than a dollar, and from the character of the 48-gauge shown in the dollar range it might appear the higher priced would have hard sledding.

The five-thread 51-gauge is in a class by itself, combining the sheer effect with a semi-service. But with the price resistance encountered this fall, this stocking might sell in no great volume unless its two outstanding features were intelligently presented to intelligent shoppers. It is a class of stocking that could be used effectively for moving prices generally to more nearly a proper level. It is understood, by the way, that new installation next year will include quite a number of 51-gauge machines.

Steady declines in raw silk over a period of eight to ten weeks were made a pretext of buyers for the trade to undertake to depress prices for hosiery and, as manufacturers, mostly, stood by reasonable, legitimate prices, operations by retailers and large wholesale distributors tapered, forcing numbers of mills to take a holiday at a time when all, practically, ought to have been too busy to think of curtailing output.

Excess Output Covers Multitude of Causes for Lowering Prices of Silk Hosiery

By the latter part of August, it will be recalled, evidence of a waning of the buying spurt, which during that month and in July assumed most encouraging proportions, was indicated in the markets for several textile lines. Strikes were prevalent, much labor was, in consequence, unemployed, and the expected increase in purchasing power was not fast enough to please discerning executives.

From $1.95 a pound in the last week in August, the New York open market price of raw silk, best quality, declined to around $1.45 by the first week in November, subsequently fluctuating around to $1.50. In its survey for October the Silk Association of America, Inc., said that due largely to strikes raw silk in storage in warehouses at the end of that month was 93,625 bales, "the largest storage figure which the industry has yet reported." Deliveries to mills during the month were 28,521 bales, the lightest since 1924. Deliveries to mills during the 10 months to October 31 were 61,664 bales less than for the corresponding period of 1932.

Light consumption of silk by American mills account for the low prices at which the fiber was sold during at least eight weeks, and low prices for silk account, in part, for the timid market for silk ho-

siery until buyers began to operate from force of necessity.

Low prices for hosiery probably might be properly attributed to the fact that at the start of radical advances in prices, many mills were able to load their customers with goods. Some bought heavily and took the goods; others contracted later, at higher prices, and since have repudiated their orders. While over-production is doubtless the prime cause for the softening in prices, the fact that prices were marked high, to be safe when additional production costs under the code were uncertain, there were factors in the recession for which manufacturers could not have been responsible. Unfortunate official utterances are believed to have been the ground for complaints that the consuming public has not been buying stockings as usual.

Pretty nearly every hosier knows or feels that he knows John Botts, of Harrington & Waring, as an outspoken factor who, while he may not be often heard in criticism, never minces words when he does voice his opinion. He regarded official warning against profiteering on the part of retailers as having left a wrong impression in the minds of consumers. This, it has been held by others, intensified consumer sentiment after repeated notice from all sources of supply and distribution that prices must of necessity be higher. H. W. Anthony of the Anthony full-fashioned mill, Strausstown, Pa., expressed himself as in accord with the criticism of Mr. Botts. The inference is that these critics of an alleged excess of warnings deterred the consumer from buying even after prices of some lines had declined moderately. An inevitable result was the disposition of many large retailers to have manufacturers hold the bag.

Hosiery interests which a short time ago believed they saw coming an enormous demand for silk seamless now are divided on the opinion that full-fashioned will be available at prices so low that seamless will have a narrower market than was contemplated. In conformity with this view, it is stated, demand for pigeon machines, which two months ago was acute, has waned, until some manufacturers who picked up machines of that one-time popular type are disposing of them. Formerly, it was felt, there would be a scarcity of seamless from Model K 300-needle machines. These still are in strong demand from dealers in used equipment, but the fear of scarcity of hosiery produced on such machines has in considerable extent subsided.

Some market interests are so sanguine of full-fashioned holding its former place in consumer preference that they seem skeptical of cotton stockings. A manufacturer who is rated in the trade as one of the more successful was heard to say recently in a general discussion, in which a prominent buyer participated, that if he booked an order for 5,000 dozens or more of cotton hosiery for spring he would not at once cover for his yarn requirements, as with raw silk at $1.50 a pound, he felt that silk stockings will increase in favor even though prices undergo a moderate advance.

Discussing two rather recent creations in silk full-fashioned stockings a manufacturer who canvasses the large retail trade says it is his opinion, after sounding buyers, as to novelties, regardless of how meritorious the features which make them an innovation, their producers will be wise to have at least one number to retail for not more than one dollar. It is his impression that novelties to sell for more than that figure will receive no hearty reception from Mrs. and Miss Consumer. The present market is not ripe for novelties, and many buyers look askance at what might appear betterment in hosiery construction. The discussion hinged on the Oscar Nebel Co. stretchy feet and the Vanity Fair Silk Mills elastic knee, which adapts itself to excess strain. The hem contains several bands of lastex, which acts as a strain absorber.

In the Nebel stocking the elasticity is obtained by use of a stitch for which the company has applied for a patent, no lastex being used. Thus, Oscar Nebel, rated by some a hosiery wizard, has undertaken to knit stockings that will adapt themselves to odd-size or misshapen feet. One number is designed to retail for a dollar a pair. It is stated the Hanes Associated Mills, having the sale of the Nebel line, expect to give them wide distribution.

Children's hosiery, in which severe price competition was alleged, and infants' socks, with which buyers also took liberties in the matter of abetting price shading, have emerged from an uncomfortable position. One manufacturer of infants' socks whose line was priced lower than some, was accused of cutting the price. This was denied, the mill head stating some had priced their lines too high, while he provided for a reasonable profit and that his prices were no secret.

Jobbers were complainants of price, since they were then quoted $2.25 a dozen for stockings for which retailers ordinarily charged 25 cents. According to a jobber selling in wide territory, the least resistance to current prices is met in communities where there are no industrial plants.

Some distributors and large retailers profess to believe that concerns which were placing no orders in November and earlier for the Christmas trade were heavy buyers during the period of low prices, before processing tax, minimum wage and restricted work hours had been established, and will set prices during December. Establishments such as Macy's, for example, are mentioned as having leased much warehouse space for storage of low price goods to be passed over the counter in a high price market. A few of the far-seeing wealthy concerns may have been doing something on that order during the July-August spurt, when mills were operating to capacity and piling up goods on order. Or it may be only a fiction invented as a pretext for delay.

Exports of cotton hosiery in September fell off to 17,568 dozens valued at $24,791, from 43,463 dozens in August, of a value of $50,771. There also was decline in outward shipments of rayon hosiery of approximately 16 per cent, to $20,354 in value. Exports of silk hosiery in September increased to $99,963 in value from $82,033 in August. The increase

was represented in women's full-fashioned—12,254 dozens of a value of $69,805 in August, compared to 13,900 dozens valued at $93,583 in September.

Imports of cotton hosiery in September—25,890 dozens—were valued at $37,972, while in August 27,402 dozens imported were valued at $29,888. Japan is shipping around 8,000 to 9,000 dozens a month. The figures are from reports of the Department of Commerce. The average price per dozen for the cotton hosiery from Japan for the two months was slightly less than 26 cents.

Rise in Heavy Underwear Shipments Follows on Heels of Drop in Temperature

A general drop in temperatures, around the middle of November, had an immediate tonic effect on retailer demand for heavy and medium weight cotton underwear, and there was reported increasing call for part-wool garments. Average small retail units had taken in heavies very sparingly, and with the first snappy warning to prepare for winter, began filling assortments. Most eastern jobbers were not oversupplied with heavies, and some experienced delay in having shipments from mills reach them. There was no underwear famine of course, but popular numbers and sizes of most lines, were not always immediately available.

Jobbers say they noted that retailers, who some weeks earlier were virtually unanimous in the professed opinion that they could not sell their usual quantities at the season's higher prices, seemed to be having about the usual late fall business, and had forgotten about the advances. On the basis of the declines in raw cotton, manufacturers had cause to congratulate themselves that, having refrained from being stampeded into laying up yarn supplies when prices were at a higher level, there might be no necessity for increasing their prices. Part wool underwear for men, of which type some manufacturers represented a few months ago it would be impossible to make prompt shipment, came out in better supply early in October. From the improvement seen last month in all types of heavy weights for men and boys it was felt mills would wind up their season quite satisfactorily.

The movement of men's summer weights has been somewhat sluggish, but in the judgment of some important primary market operators, no more so than usual. While summer weights are more popular for all year round wear, it is stated most retailers make the bulk of their commitments in the spring. This fall, however, a fair amount of light weight business has been placed, the volume exceeding manufacturers' expectations as prices advanced.

In women's underwear, tuck stitch garments continue the probably more active number in cotton construction. Some of the up-state Pennsylvania manufacturers who in October were busy with the completion of orders, but had visions of a slack November, since have booked considerable business in cottons and the looked for shut-down of plants has been escaped. Some of the mills were operating only as orders accumulated. Business came in more steadily last month and, the shutdowns became less frequent and of shorter duration.

Open 1934 Bathing Suit Lines on a Demoralized Worsted Yarn Market

In opening bathing suit lines for the southern resort winter season and the summer of 1934, manufacturers aimed at giving buyers for the trade opportunity for constructive comment rather than in the expectation of booking any material amount of business. Samples were officially shown on November 13, when it was revealed that quotations are around $6 to $7 a dozen higher than for popular price numbers of last season. It is figured that as the increase may mean only about 50 to 75 cents per suit there should be little consumer resistance, particularly as numbers of manufacturers have improved some of the expected leaders for next season, in appearance, at least, and purpose substituting zephyr yarns for the coarser worsted counts which have been in common use in the trade at large. It is the understanding that single 20s, fine, have been adopted for proposed outstanding suits in matter of style.

Ruling On Government Contracts

WHEN bids were opened on November 23 at the office of the Quartermaster, U. S. Army, in Philadelphia, for hosiery and underwear for the Civilian Conservation Corps, bidders were requested to give an option of acceptance of bids by the United States of at least ten days.

The bids were for supplying 240,000 pairs of woolen heavy weight socks, stocking type, to be of not less than 75 per cent wool, or all-wool or all-worsted, 13,760 undershirts, heavy weight, size 34, flat or ribbed, and 76,960 pairs of men's wool heavy weight drawers, flat or ribbed.

It is stated the request that the government be given a 10 days option on acceptance of bids was the first time this provision was inserted in a call for bids for supplies. Previously, in opening bids for 2,427,185 yards of denim for the CCC, bidders were advised of a requirement by the War Department, ordered by President Roosevelt, that, in effect, "with each invoice to the government during the life of a contract the contractor must furnish an affidavit that in the performance of the contract the contractor and his sub-contractors have strictly complied with their code of fair competition or with the president's re-employment agreement, and that all supplies furnished had been produced in strict compliance therewith."

Bidders were informed by the officer in charge of receiving the bids that the War Department, in view of the new requirement, had ruled that "the lowest responsible bidder shall be asked to sign such an affidavit, and if such bidder refused to do so, 'no award shall be made on the denim proposal' and bids shall be re-advertised."

It was stated officially at the quartermaster's office that this requirement henceforth will be incorporated in all proposals issued from the Philadelphia depot.

QUITEX
CREPE TWIST YARN

The prevailing style calls for Crepe Twist Yarn—which Quissett can furnish made from either spun rayon or cotton fibre, in any twist desired, and put up in any shape.

QUISSETT MEANS QUALITY

Quissett Mill
New Bedford, Mass.

Wm. M. Butler, Pres.
Edward H. Cook, Treas.
Thomas F. Glennon, Agent

The recognition and acceptance of Quitex Crepe Twist Yarn and Quitex Spun Rayon is due not only to their smartness, dull lustre and high tensile strength, but also to the industry's faith in Quissett's experience of twenty years' duration.

Let us send you samples of Quitex Crepe Twist Yarn and Quitex Spun Rayon

AVONDALE MILLS

Sycamore, Ala. — Sylacauga, Ala.

OFFER THE ADVANTAGES OF LARGE FACILITIES — QUICK SERVICE

THEY CAN READILY SUPPLY ANY TWIST, PLY, OR PUT-UP IN CARDED OR DOUBLE CARDED YARNS FOR KNITTING, WEAVING OR INSULATING IN ALL NUMBERS FROM 3's TO 40's.

Selling Agents:

WATERMAN, CURRIER & CO.
INCORPORATED

BOSTON CHARLOTTE NEW YORK
PHILADELPHIA READING

Sure She's Pleased

Good Fabrics are made perfect with "Brosco" Silk Finishes. The Hosiery Maker absolutely eliminates Guess Work and Uncertainty when he uses these well known and widely used Finishes:

"Brosco" Dull Finish
Finishing Compound S. P.
"Brosco" Scroop Oil

When used in proper combination, the above "BROSCO" FINISHES will give any desired degree of Low Lustre, Water and Spot Proofing, Softness and Elasticity—and only "one bath" is necessary.

"BROSCO" FINISHES are "fixed" on the Fibre and thus will withstand repeated washings.

Ask for further details,—or have one of our practical men call.

NRA MEMBER U.S. WE DO OUR PART

Brosco Product

SCHOLLER BROS. INC.

MFGRS. of TEXTILE SOAPS, SOFTENERS, SULPHONATED OILS & SPECIALTIES
AMBER and WESTMORELAND STS., PHILADELPHIA, PA.
and in ST. CATHARINES, ONTARIO, CANADA

REVIEW OF THE YARN MARKET

Philadelphia, Pa., November 17, 1933.

OF OUTSTANDING importance among the developments in the cotton yarn trade as seen in the Philadelphia area in the past few weeks were two movements in the direction of establishing a basis for prices through adherence to which it was hoped to spin and distribute yarns in a less hap-hazard fashion than has been permitted by the complainants themselves.

There reached the trade in Philadelphia apparently trustworthy reports of an unorganized effort on the part of southern spinners to curtail production until surplus stocks have been pretty well absorbed. Buyers, however, have heard such reports in every recurring weak market for yarns, and no longer are frightened into placing contracts in advance of the spinners putting their threats, or warnings, into action.

Until even a very few weeks ago carded yarns were being offered in Philadelphia at a full cent below spinners' apparently lowest quotations to distributing establishments. It was reliably reported that some business was placed at 25 to 25¼ cents. And yet it had been made to appear there was increasing inquiry. Perhaps it was too soon to the end of November to look for actual results from spinners' unorganized movement for protecting themselves against loss on sales by producing less yarn pending the time when demand will have caught up with ready-to-deliver stocks.

The organized campaign for establishing and maintaining at least near stabilization was that sponsored by the Cotton Yarn Merchants' Association, whose proposals have yet to run the gauntlet of consideration by the Cotton-Textile Institute, Inc., and later, the NRA authorities in Washington.

Conditions in the cotton yarn trade had become "deplorable," as adequately described in a single four-syllable word. Yarn merchants subscribed to this comment after having been wrestling for weeks with cancellation of orders and other violations of the code of ethics, while at the same time losing business through resort to underselling of the market by interests which were allegedly selling short and were able to find a few producers too willing to cover the short sales for them.

While of course the monthly estimates of the year's crop of cotton increased the number of bales mightily, despite the destruction of "every third row," was a prime factor in the softening of the yarn markets, these paper additions to the yield as originally estimated officially could not be accepted as establishing an alibi for spinners' overproduction while aware that deliveries were being held up by some consuming manufacturers and orders cancelled by others, thus supplying encouragement for an element among buyers looking for and probably trying to develop soft spots in trading organizations.

It was noted that efforts at stemming the tide toward further demoralization were confined, virtually, to carded yarns, although combed peelers were offered at a variety of prices, in a range of three cents and more for medium knitting counts. Quotations were around 45 to 47 cents for single 38s, and on a like basis for coarser counts, fine, although in less demand, showing not so much disparity. It was a common admission that trade publication lists of prices represented figures which seldom were realized and frequently not quoted. Yet the price lists were supplied by the yarn merchants themselves.

The November business in mercerized yarns slipped in step with curtailment of production of hosiery and prices have been in the same direction, until 60s/2 were available at 70 cents, in instances, some houses quoting in a range 72 to 75 cents.

The more sluggish yarn trading in recent weeks continued in weaving numbers, attributable to a shutting down on production of some commodities as a result of severe price chiseling. A plush manufacturer was alleged by rivals last month to have cut prices by 20 cents a yard.

Philadelphia prices published November 16, including the processing tax, follow:

Single Skeins

4s to 8s	26½	10s	27
12s	27½	14s	28
16s	28½	20s	30½
24s	33	26s	34
30s	35		

Single Warps

10s	27½	12s	28
14s	28½	16s	29
20s	30½	26s	34 @34½
30s	36 @36½		

Two-Ply Skeins

8s	27	10s	28
12s	28½	14s	29
16s	29½	20s	30½
24s	33½	26s	34½
30s	36½	40s	46½

Two-Ply Warps

10s	28½	12s	29
14s	29½	16s	30
20s	31	24s	34
26s	35	30s	37
40s	47		

Frame Spun Carded Cones

8s	26½	10s	27
12s	27½	14s	28
16s	28½	18s	29
20s	30	22s	30½
24s	33	26s	34
30s	35	40s	45
30s double carded			38
30s tying in			85

Carpet Yarns

8s and 9s white warp twist	26½
8s tinged tubes	25½
8s part waste	24

Two-Ply Combed Peeler Skeins and Warps

8s to 10s	35 @36	20s	40
24s	41	30s	45
40s	51	50s	56
60s	62	70s	72
80s	83		

Single Combed Peeler-Yarns on Cones

10s	35	14s	36
16s	37	18s	38
20s	39	24s	40
30s	43	36s	46
38s	48	40s	49
50s	54	60s	60
70s	70	80s	81

Mule Spun Carded Yarn on Cones

10s	28	12s	28½
14s	29	16s	29½
18s	30½	20s	32
24s	34	26s	35
30s	36½	40s	45½

Mule Spun Combed Peeler Yarn on Cones

10s	35	12s	35½
14s	36	16s	37
18s	38	20s	39
22s	39½	26s	41
28s	42	30s	43
36s	46	38s	48
40s	49		

Vision—
In times like these, when mere man attempts to encourage (or upset) the normal workings of economic laws, a satisfactory vision is at least difficult. But let's not eliminate all the fundamentals. And, of these, quality buying, consistent with price, is more important. That is where we enter into your picture.
QUAKER CHLORAL
Sulphonated Olive, Castor, Neatsfoot Oil and Specialty products. Practical demonstrations with no obligation.
QUAKER CITY CHEMICAL COMPANY
PHILADELPHIA, PA.
KNOXVILLE, TENN. HAMILTON, ONT., CAN.

BONE-DRY
HOSIERY FINISHING BOARDS
PEARSON
HARD MAPLE
HOSIERY FINISHING BOARDS
THAT WORK ABSOLUTELY SMOOTH
The famous bone-dry, unshrinkable, well finished boards that give universal satisfaction.
Especially recommended for silk and chiffon hosiery. Satisfied users the country over. A list of these users gladly furnished to any mill on request.
JOSEPH T. PEARSON & SONS CO.
Kensington & E. Boston Aves., Philadelphia, Pa.

THE
READING
FULL FASHIONED
KNITTING MACHINE

The right

SOAP, OIL *or* SOFTENER

There's no place for "trial and error" processing in the new shorter hours—higher wage schedule of today. Your finishing materials must be right.

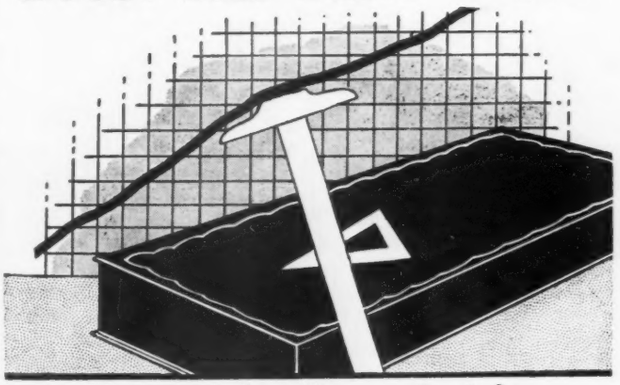
Laurel Soaps, Oils and Softeners are right. They are made from the best obtainable raw materials, checked and rechecked in our laboratory to give you the desired results without chance. That's why Laurel Products cut costs for textile manufacturers.

Our booklet, "Your Treating Problems" will show you how others have cut costs. Send for your copy.

Laurel

SOAP MANUFACTURING COMPANY, INC.
WM. H. BERTOLET & SONS
2600 E. Tioga Street, Philadelphia, Pa.
WAREHOUSES
Paterson, N. J. Chattanooga, Tenn. Charlotte, N. C.

Boost Your Sales Curve



with individually styled boxes

Higher sales curves follow when proper care is taken in styling boxes for textile products. Paper boxes by Old Dominion are scientifically designed to your individual needs by experts who know merchandising as well as box making. Write nearest plant for samples, prices.

OLD DOMINION BOX COMPANY, INC.
Lynchburg, Va.
Winston-Salem, N. C. Burlington, N. C. Asheboro, N. C.
Charlotte, N. C.

quality OLD DOMINION Paper Boxes

VICTOR
MILL STARCH
"The Weaver's Friend"

A Thin-Boiling Starch that Penetrates the Warp and Carries the Weight into the Cloth. Assures 100 percent Production.

Distributed By

DANIEL H. WALLACE SOUTHERN AGENT GREENVILLE, S. C

C. B. ILER, GREENVILLE, S. C.
F. M. WALLACE, COLUMBUS, GA.
L. J. CASTILE, CHARLOTTE, N. C.

THE KEEVER STARCH COMPANY
COLUMBUS, OHIO

SOLVAY
TRADE MARK REG U S PAT. OFF.
PRODUCTS

SOLVAY products are sold on the basis of *actual* Alkali content.

SOLVAY 58% Soda Ash *contains* 58% of *actual* sodium oxide.

SOLVAY 76% Caustic Soda *contains* 76% of *actual* sodium oxide.

Specify SOLVAY—the standard of SODA since 1881.

SOLVAY SALES CORPORATION
Alkalies and Chemical Products Manufactured by The Solvay Process Company
61 BROADWAY NEW YORK

SOUTHERN DISTRIBUTORS:
Charles H. Stone, Charlotte, N. C.
Woodward Wight & Co., New Orleans, La.
J. T. Sudduth & Co., Birmingham, Ala.
Miller-Lenfestey Supply Co., Tampa, Miami and Jacksonville, Fla.
Burkart-Schier Chemical Co., Chattanooga, Tenn.
Paper Makers Chemical Corp., Atlanta, Ga.; Marrero, La.

THE AUDIT BUREAU OF CIRCULATIONS
And Advertising Terms

The Audit Bureau of Circulations is the cutting edge of the "Truth in Circulation" movement.

Today, nearly fifteen hundred publications of every type, published in the United States and Canada, make detailed semi-annual statements through the A. B. C. as to the size of their circulations, where they distribute their copies and how they build up and maintain their subscription lists. Every year, the traveling auditors of the Bureau visit these publications and examine and report on the accuracy of their circulation claims.

One of the most important contributions, if not the most important, which the A. B. C. has made to the intelligent sale and purchase of advertising space is the establishment of a uniform language for buyer and seller to use. Before the A. B. C. was founded, few advertising terms were used and understood in the same way by everybody. "Net paid circulation," for instance, meant ten or eleven different things. The A. B. C. has given definite meanings to words and terms. When an advertiser is comparing a number of different publications, he knows that the same word used in the report of one publication means exactly the same thing in the reports on the others.

Fair trading without standardized terms is an obvious impossibility. Because the Audit Bureau of Circulations has given advertising terms unequivocal definitions, advertisers are today able to transact business with publications, free from the dangers of misunderstanding and of being misunderstood.

COTTON
Grant Bldg. Atlanta, Ga.

Desizing Grey Goods

Proper dyeing, printing, and finishing require a good bottom. A good bottom can only be obtained by complete desizing. Best results demand complete desizing before the kier boil.

• DEGOMMA 20F •

removes the size completely without weakening the fibre, and insures quick and thorough penetration during the kier boil. Goods desized with DEGOMMA 20F come out of the kier white and absorbent which makes possible level dyeing and printing.

Degomma 20F is a dry, white powder which is clean, stable, accurately standardized and convenient to handle.

FOR ALL DESIZING PURPOSES—USE DEGOMMA 20F.

Röhm & Haas Co., Inc.

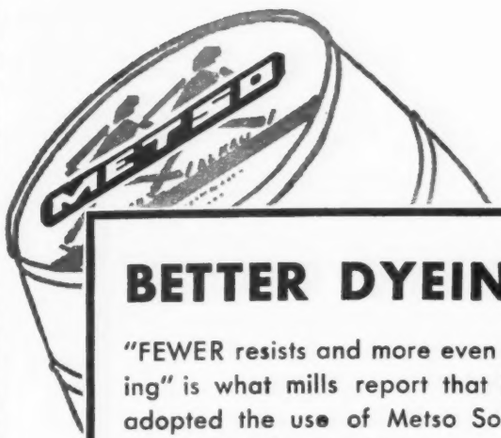
222 West Washington Square, Philadelphia, Pa.

"COTTON MAGAZINE" CALLS ATTENTION TO NEW KALI PRODUCTS FOR TREATING RAYON

"Among other products developed for treating rayon crepe is Hydroxcene, a one-piece product with which nothing else is used; 'Sulfoko' is a throwing oil for crepe to be used in conjunction with gelatines. 'Hydroxy French Size' has been developed especially for acetate yarns, and 'Slashing Compound "S"' for viscose yarns, both being easily removable, it is explained. 'Dresden Finish' is a one-bath waterproof used in waterproofing rayon crepe fabrics, piece silks and cotton thread. 'Delustrants' for hosiery is another new product for the desired finish on hosiery, rayon and silk piece goods. 'Staboleum' is a special type sulphonated oil to be used in conjunction with mineral acids without breaking up, and, when used in hard water with calcium, magnesium, etc., has the property of holding these in suspension instead of combining with them, it is explained."

Full particulars about any of the above Kali products mentioned in "Cotton" for October sent on request to

The KALI Mfg. Co.
Manufacturing Chemists
1410 N. Front Street, Phila., Pa.



BETTER DYEING

"FEWER resists and more even dyeing" is what mills report that have adopted the use of Metso Sodium Metasilicate* in the kier.

The reason? Metso's improved wetting power enables the caustic to penetrate the very interior of the goods.

Get the complete details from us regarding the proportions to use.

PHILADELPHIA QUARTZ CO.

General Offices and Laboratory: 125 S. Third St., Philadelphia, Pa.
Chicago Sales Office: 205 W. Wacker Drive. Stocks in 66 cities.
Sold in Canada by NATIONAL SILICATES LTD., Brantford, Ontario

USE STAR BRAND SILICATE FOR BLEACHING

*U. S. PAT. 1898707

BOSSON & LANE, INC.

Manufacturing Chemists
Established Jan. 1, 1895
Works and Office, Atlantic, Mass.

High Grade Castor Oil Products
Sulphonated-Saponified

Soluble Oil — **Para Soap Oil**
Turkey Red Oil — **Castor Soap Oil**
Soluble Pine Oil — **B & L Bleaching Oil**

PENTRALYN, a superior assistant for Beam, Spool, Bobbin and Package Dyeing.

Bleach Softener CSO, Finishing Sizings and Softeners

VICTROLYN, the economical assistant in warp sizing. Penetrating, Lubricating and wholly efficient.

B & L Bleachers' Bluings and Violet Tints

GOOD MONEY VALUES-FREEDOM FROM WORRY

For better sizing of Rayon Warps

HERE is the most effective method of securing improved fibre lubrication, greater pliability and increased resistance to moisture. HARTOGEL "K" gives RESULTS, especially when applied in proper proportions with our special Rayon Oils. HARTOGEL "K" is one of the HART products, long famous for their higher quality and unfailing uniformity.

Full data on any or all HART products sent gladly on request.

THE HART PRODUCTS CORPORATION
1440 BROADWAY, NEW YORK, N. Y.

Other HART Products:

Sulfonated Oils	Finishing Oils
Silk Soaking Oils	Dye Assistants
Rayon Oils	Softeners
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Degumming Oils	Warp Dressings
Bleaching Oils	Anti-Mildew Agents
Kier Oils	Wetting-out Agents

Hartogel K

BASED ON RESEARCH

2 ESSENTIALS

for highest quality bleached goods at lowest unit cost—

BECCO Concentrated **HYDROGEN PEROXIDE**

Up-to-date mills all over the United States have discovered these two **modern** essentials to a superior and economical bleach. **Becco** Concentrated Hydrogen Peroxide **plus Becco** Technical Service means a careful, accurate application of peroxide to **your** bleaching requirements. The result, to which so many mills bear testimony: the highest quality bleached goods at lowest unit cost. **Becco** can be adapted to the bleaching of any fabric—raw stock, yarns, knit goods, hosiery, piece goods, specimens, etc. Write for full details.

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BUFFALO, NEW YORK
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CONSIDER *these* STARCHES

DEXTRINS *and* GUMS

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THIN BOILING STARCHES

Eagle One Star
Eagle Two Star Foxhead
Eagle Three Star
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THICK BOILING STARCHES

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Hawkeye Peerless

DEXTRINS

White Dark Canary
Canary British Gum

THESE STARCHES, dextrins and gums are manufactured by carefully controlled and standardized methods. Purity and uniformity are guaranteed. Economy and efficiency are attested by the constantly increasing number of users who are getting satisfactory results.

These are selected products available for the purposes and conditions of exacting textile manufacturers.

IMPORTANT

Our research department will be glad to furnish additional information regarding the types and uses of these and other products as applied to the special needs of the Textile Industry. Write to

CORN PRODUCTS REFINING CO.
17 Battery Place, New York City

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MINEROL

6 MILLION SPINDLES ARE EQUIPPED FOR

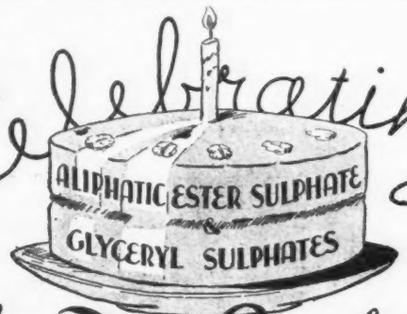
Now there's MORE to do . . . and LESS time to do it!

- COTTON fibre conditioning . . . assisting normal moisture retention . . . unchanging in climatic variations.
- The BRETON MINEROL PROCESS softens natural fibre coatings . . . makes them pliant . . . lessens kinkiness.
- MINEROL treatment produces better runs in Carding, Drawing and Spinning operations. It brings favorable reactions in Dyeing, Bleaching and Mercerizing.

RAW COTTON LUBRICATION *by the* BRETON MINEROL PROCESS PATENTED

BORNE SCRYMSER COMPANY
Originators *of the* BRETON MINEROL PROCESS *for* CONDITIONING COTTON
17 BATTERY PLACE · NEW YORK

Celebrating



The First Birthday

ONE YEAR AGO—the first announcement of this series of NEW compounds carried statements which *then* sounded "too good to be true"! The compounds offered better—quicker—more economical production for every processing and finishing operation. They were hailed as successors to and superior to ordinary sulphonated compounds.

TODAY—three out of five orders coming into the ONYX offices call for a compound in the series. Convincing proof that the statements ARE true! Write, stating operation and fabric, and sample will be sent.

ONYX OIL & CHEMICAL CO.

Specialists on Finishing Materials.

Jersey City, N. J.

NRA MEMBER U.S. WE DO OUR PART

Midw. Repr. MAHER COLOR & CHEM CO., Inc., Chicago.

A word about harness and reeds

When in Need of Service, Write Us

Satisfactory Service Since 1919

Nobody can tell you truthfully that there are better products than those made by the Atlanta Harness & Reed Manufacturing Company.

REEDS
Cotton-Duck
All Metal
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A Loper contract contains the guarantee that its service will pay you at least twice the amount it costs you.

Let us give you references that prove we accomplish even more than we guarantee.

Fully 25% of All Cotton Textile Spindles in the U. S. are operated on the Loper System.

Ralph E. Loper Co.
INDUSTRIAL ENGINEERS
Specialists in Textile ost Methods Over 20 Years.
FALL RIVER, MASS. GREENVILLE, S. C.

HURLEY-JOHNSON CORP.
25 WALKER ST., NEW YORK
SOLE AMERICAN AGENTS FOR
JAMES KENYON & SON, LTD.
BURY, LANCASHIRE, ENGLAND
Celebrated
LAPPINGS and BLANKETS for PRINTING MACHINES
CLEARER, ROLLER and SLASHER CLOTHS.
For Best results in Sanforizing use
KENYON'S ENDLESS WOOLEN BLANKETS

There is Nothing like

REG. U. S. PAT. OFF.
CALF
for Roller Covering
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UNDERCLEARER ROLLS

Profits are being discovered where waste and inefficiency existed before. Another cost saving item, be it ever so small, becomes important when it plugs a leak in maintenance outgo.

Only 25% of the original Sonoco Underclearer Roll wears out—the Recover Tube, which is cheap and easy to replace. The wooden core, the hard fibre ends and gudgeons, run on and on.

Sonoco Underclearer Rolls are available in all standard sizes, or special sizes. Exact quotations and accurate samples submitted upon receipt of inquiry accompanied by example of roll to be duplicated.

SONOCO PRODUCTS COMPANY
HARTSVILLE, SOUTH CAROLINA

UNIVERSAL
STANDARD RING TRAVELERS
BEST MEET THE SPECIFIC REQUIREMENTS FOR SPINNING AND TWISTING

THE BOWEN PATENTED
BEVEL EDGE TRAVELER
VERTICAL OFFSET
TRAVELER
FOR
EVEN SPINNING AND
TWISTING
VERTICAL NE-BOW
TRAVELER
FOR
SILK, RAYON AND FINE
WORSTED YARNS. A
TRAVELER THAT WILL
NOT UNTHREAD. ESPECIALLY DESIGNED FOR
LUBRICATING RINGS.

Write For Samples And Particulars.

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The **trend toward calfskin** for roller coverings is a natural result of savings effected in actual usage. For an extreme comparison, use **Gallun's Roller Calf** for your tests. Gallun is preeminent in specialized calfskin tannage, both vegetable and chrome . . . Write for data.

A. F. GALLUN & SONS CORPORATION, Milwaukee, Wis.
Boston Branch, 11 East Street—Southern Representative, Clarence Ochs, P.O. Box 1603, Greeneville, South Carolina

GALLUN LEATHERS

ALWAYS STANDARDS OF EXCELLENCE

SAVED $11,439.96
a year by installing a HERMAS BRUSH and SHEARS

A LARGE mill, after installing a Hermas Brush and Shears, made a direct saving of $11,439.96 a year. It affected further indirect savings by reducing "seconds", rejects, and lost time.

WE have found the average mill cuts its clothroom costs $50 to $220 a week—$2600 to $10,400 a year—by installing this equipment.

MANY concerns pay so much attention to saving money in their spinning, winding, warping, and weaving departments that they entirely overlook the attractive savings that can be affected in their clothroom, which, incidentally, is the vital point of contact between the mill and their customers.

DON'T let the Clothroom be an orphan in YOUR plant. Mechanize it with a Hermas Brush and Shears—and save $50 to $220 a week—and get cleaner, more uniform goods.

Runs From 50 to More Than 90 Yards a Minute

THE Hermas brushes and shears both sides of the goods at 50 to more than 90 yards a minute. Reduces trimming, cleaning, burling, and inspecting costs. Gets leaf motes and trash and removes strings and nibs. Eliminates hand-work and singeing.

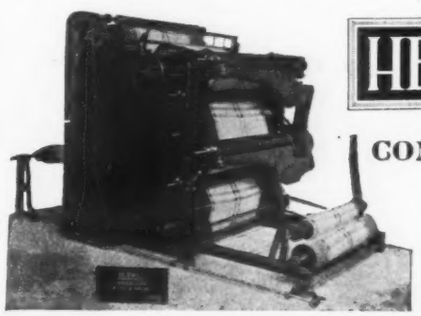
WRITE for prices and free, illustrated folder describing this and other Hermas Clothroom machinery. No obligation.

HERMAS MACHINE CO.

Cloth Room Machinery

Warburton Ave., Susquehanna R. R., Hawthorne, N. J.

Southern Representatives: Carolina Specialty Co., Charlotte, N. C.



HERMAS

COMBINATION BRUSH AND SHEAR

LOWER LABOR COST, FEWER QUILLS, LESS WASTE

are worthwhile considerations in bobbin stripping

THE rapidity with which quills can be cleaned with the Type-K saves labor.

Type-K, by concentrating quill cleaning in one spot, also makes possible an accurate check on waste. And, by keeping quills smooth and free from splinters, prevents yarn breakage at the looms.

This means money in your pocket every year. Write for New Free Type-K Catalog.

TYPE K BOBBIN STRIPPER

The TERRELL MACHINE CO., Inc.,

CHARLOTTE, N. C.

Mr. Luther Pilling, Danielson, Conn., representative for N. Y., N. J., Pa., New England States and Canada.

Geo. Thomas & Co., Ltd., Manchester, England, Agents for Great Britain and Continental Europe.

UNDER THE N R A

with larger payrolls and more employees, the Four-In-One Pay Envelope proves indispensable. Enables the payroll department to do far more work . . . in less time. Cuts down errors and reduces employee complaints. Made under the NRA to help any other firm operating under the Blue Eagle.

THE FOUR-in-ONE IS:

1. A Pay Envelope
2. A Time and Wage Statement
3. A Deduction Statement
4. An Employee Receipt

Made in the largest commercial envelope plant in the Southeast. Write for information and quotations on any envelope requirement.

ATLANTA *Envelope* COMPANY

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AN UP-TO-DATE PRINTING PLANT

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We have built a reputation that is known over the entire South by our special attention to the minutest detail.

We are more than ready to answer any question that relates to your printing problems.

Write us and let us quote you on anything from a postal card to a full bound book.

The A. J. Showalter Co.

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NEARLY half the 1600 rooms at the William Penn Hotel have now been reduced to $3.00 and $3.50. A NEW DEAL for everybody! The same excellent service, the same luxurious appointments at Pittsburgh's finest hotel. All rooms with bath.

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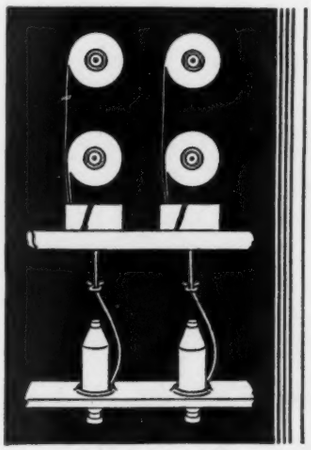

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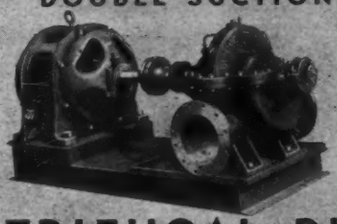

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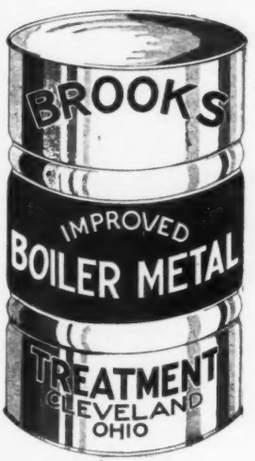

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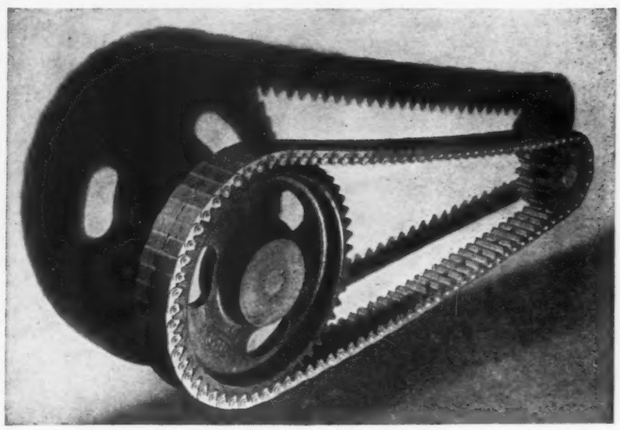

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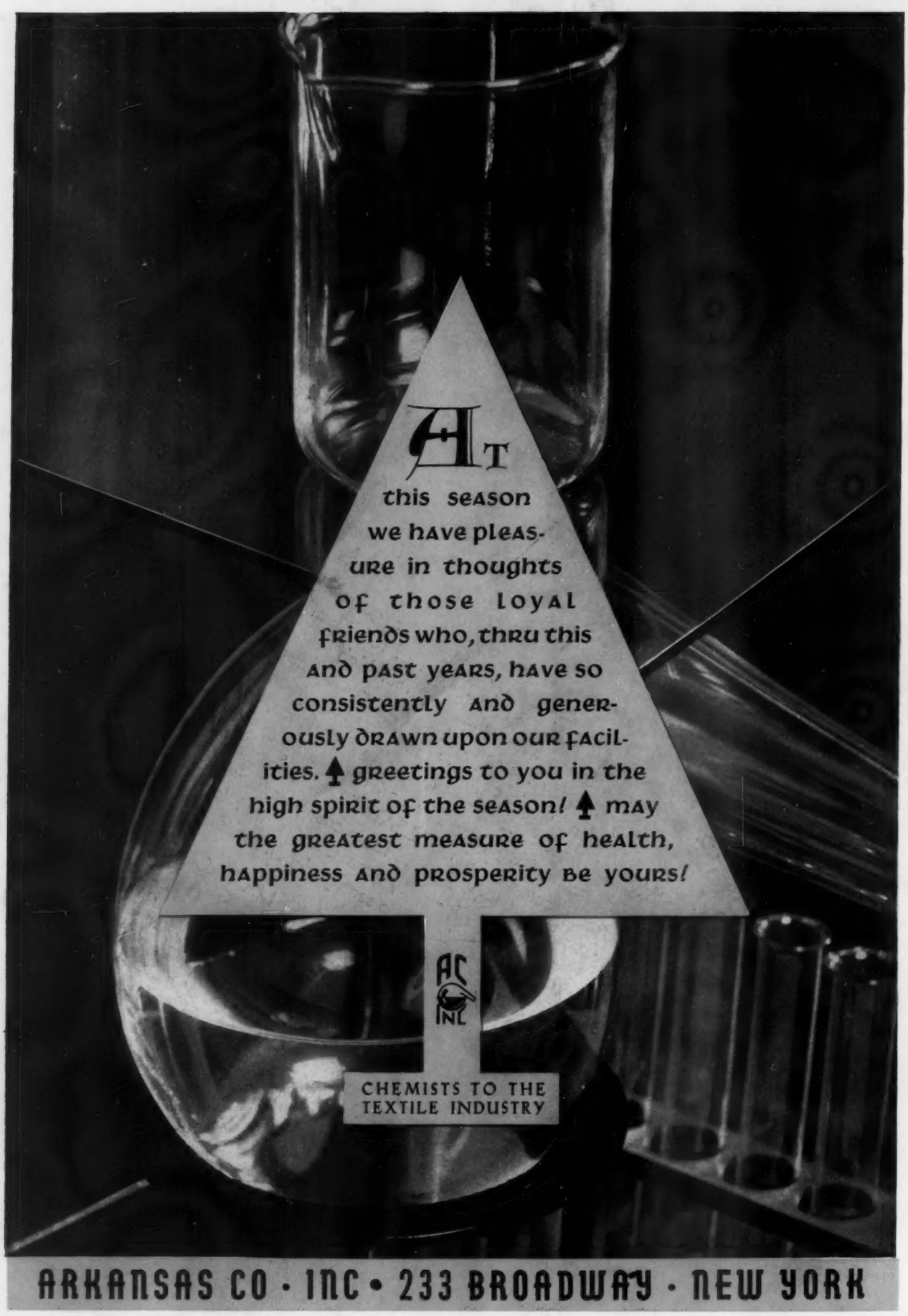
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